



SCHOOL DOCUMENT NO. 15 — 1895.

ANNUAL REPORT
OF THE
SCHOOL COMMITTEE
OF THE
CITY OF BOSTON.

1895.



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REPORT.

In accordance with the provisions of the Statutes, and of the Rules of the School Board, the committee appointed to prepare the annual report of the School Committee for the year 1895 present the following statement of the condition of the public schools, briefly outlining the most important subjects which have received the attention of the Board during the year:

SCHOOL SYSTEM.

The public-school system of Boston comprises one Normal School, two Latin Schools (one for boys and one for girls), eight High Schools, the Mechanic Arts High School, fifty-five Grammar Schools, five hundred and ten Primary Schools, forty-four Kindergartens, one School for the Deaf, an Evening High School and twelve Evening Elementary Schools, five Evening Drawing Schools, a special school on Spectacle Island, seventeen Manual Training Schools, and fifteen Schools of Cookery.

STATISTICS.

The statistics of the public schools are returned to the Superintendent semi-annually in the months of January and June, so that the statistics printed in the annual reports of the Board, issued usually in

December, are for the year ending the preceding June. Those given below are for the year ending June 30, 1895.

Number of persons in the city between five and fifteen years of age, May 1, 1895	77,152
Whole number of different pupils registered in the public schools during the year ending June 30, 1895 : boys, 39,085 ; girls, 36,696 ; total	75,781

REGULAR SCHOOLS.

Normal School.

Number of teachers	12
Average number of pupils belonging	183
Average attendance	175

Latin and High Schools.

Number of schools	11
Number of teachers	140
Average number of pupils belonging	3,846
Average attendance	3,639

Grammar Schools.

Number of schools	55
Number of teachers	788
Average number of pupils belonging	33,337
Average attendance	30,393

Primary Schools.

Number of schools	510
Number of teachers	514
Average number of pupils belonging	26,856
Average attendance	23,196

Kindergartens.

Number of schools	44
Number of teachers	100

Average number of pupils belonging	2,906
Average attendance	2,138

SPECIAL SCHOOLS.¹*Horace Mann School for the Deaf.*

Number of teachers	12
Average number of pupils belonging	103
Average attendance	91

Evening Schools.

Number of schools	17
Number of teachers	178
Average number of pupils belonging	4,625
Average attendance	2,872

Evening Drawing Schools.

Number of schools	5
Number of teachers	27
Average number of pupils belonging	558
Average attendance	479

Spectacle Island School.

Number of teachers	1
Average number of pupils belonging	18
Average attendance	13

RECAPITULATION.

Number of schools :	
Regular	621
Special	24
Number of teachers :	
In regular schools	1,554
In special schools	218

¹There are seventeen Manual Training Schools and fifteen Schools of Cookery, but as the pupils of the regular public schools attend them, they are not included in these tables.

Average number of pupils belonging:

In regular schools	67,128
In special schools	5,304

Average attendance:

In regular schools	59,541
In special schools	3,455

NORMAL SCHOOL.

The Normal School was established in 1852. In 1854 the course of study was changed by the addition of some branches of study, and the school was called the Girls' High and Normal School. The normal features were soon quite overshadowed by the High School work. In 1864 a training department was organized, and located in Somerset street. In 1870 this department was transferred to the new building on West Newton street occupied by the Girls' High and Normal School. In 1872 the two courses were separated, and the Normal School made a separate school and accommodated in the Rice School-house, where it is now located. Upon its separation from the Girls' High School, Larkin Dunton, LL.D., who was then the master of the Lawrence School, was elected head-master of the Normal School, and has continued in that position ever since.

The graduating class of last June numbered sixty-one. The total number of graduates of the school is 1,368; of this number 1,018 have been appointed in the day schools of Boston; of the number thus appointed 738 are now teaching in the schools.

For several years this school has been sadly crippled

pled in its work for want of additional accommodations and necessary equipment. The course of study has been extended to cover two years; the teaching force of the school has been increased; every available corner of the building has been occupied, and the time has long passed when the demands made upon the school could be met in the cramped space into which it is crowded.

Suggestions have been offered that the State be requested to assume the charge of the school, and recently the committee in charge have presented propositions concerning the future of this institution. It is hoped that the earnest attention of the Board will be given to this most important subject, and if it be determined that this school is to be maintained by the city, that every effort will be made to provide it with accommodations and equipment second to none in the country.

LATIN AND HIGH SCHOOLS.

There are at present maintained by the city two Latin Schools, and nine High Schools including the Mechanic Arts High School.

These schools continue to hold their high standard of excellence. There has been no special legislation during the year concerning them.

The regular course of study in the High Schools is for three years, with an advanced course of one year more in the central High Schools. By special legislation some of the suburban schools have been permitted to have an advanced course of one year. Undoubtedly in the near future this question of a

four years' course which shall prepare pupils for entrance to the university will demand attention.

Supervisor Peterson, in his report to the Superintendent last March, states:

There is a growing desire to make the connection between high schools and colleges closer than it has been; and some progress in that direction has already been made. In history, mathematics, physics, German, French, and Latin, the Boston High Schools are, with some slight changes in the course of study or in college requirements, able and ready to prepare pupils for college. In chemistry the college admission requirements might be greatly improved by conforming to the excellent course now pursued by pupils during the third and fourth years in the high schools. In English, too, the college demands could be easily met, were a logical and systematic course of study asked for by the New England colleges. At present the authors to be read are miscellaneous; not arranged in any order, unless it be disorder; and not adapted to any *course* of instruction. If for each of the four years of the high-school course the reading of some authors or productions suited to the age and progress of the class were asked for, and if the colleges demanded an admission examination on these authors or productions, there is no doubt that the Boston High Schools could meet the requirements in English; and if four other courses, parallel to the first, were laid out for the examination in the four subsequent years, and the five courses were repeated in the same order, not only would a desirable variety of authors be studied, but the expense for books would be greatly diminished.

The whole number of pupils belonging in the Latin and High Schools January 1, 1895, was 3,996; and the number in January, 1894, was 3,416, — a gain of 580 pupils. The High Schools are steadily increasing in numbers of pupils, and there has been for some years a lack of accommodations.

It has been said, and we think with great justice, that the Grammar and Primary School children should receive the first care and attention of the Board; but there can be no doubt that the needs of the High Schools must soon be considered.

MECHANIC ARTS HIGH SCHOOL.

This school entered upon its third year in September, 1895. The school is designed to be an institution of High School grade, in which, in addition to many of the usual subjects of study in High Schools, the elements of mechanic arts shall be taught, not primarily for the purpose of preparing boys for particular trades, but with a view to securing the highest educational results which a practical and systematic study of mechanical processes can yield.

It was impracticable to formulate a complete course of study at the outset, but the course adopted tentatively by the Committee on Manual Training, with slight modifications and some changes in time allotments, is likely to become permanent. In the academic work special emphasis will be placed upon English and mathematical branches. The subjects of study will be elementary algebra, plane and solid geometry, advanced algebra, or the elements of trigonometry, physics, history, civics, French, and English. The instruction in the shops will include carpentry, wood-turning, pattern-making, forging, chipping, filing, iron-fitting, and the elements of machine-shop practice.

The building in its main features is admirably

adapted to the purposes for which it was designed, but the school has been seriously crippled, and its complete and systematic development rendered impossible, by the fact that the original plan for the building was not fully executed. The wing designed to contain the principal's office, the library, the reception-room, and the chemical and physical laboratories has not been erected ; and if work upon it could be begun immediately, the laboratories could not be completed in time to be of service to the first graduating class. Several requests of the Committee on Manual Training for completing the building in accordance with the original plan have been endorsed by the Board, but the efforts to obtain the necessary appropriation have proved fruitless.

A special appropriation for furnishing the building has been granted, and the equipment will soon be completed. The machine-shop is the last department in the present building to be furnished. The most pressing need of the school at present seems to be the completion of the building as originally contemplated, and we trust that in the near future this want may be supplied.

GRAMMAR SCHOOLS.

Departmental Instruction. — In the annual report of the Board of Supervisors for 1891 the subject of departmental instruction was presented, with certain suggestions concerning its introduction into the Grammar Schools. The Committee on Examinations, to whom the subject was referred, submitted a report to the Board in December, 1893, recommending that

departmental instruction be permitted, and that the principals of Grammar Schools be advised to organize, if practicable, the instruction in them departmentally. It was further suggested that the Committee on Examinations, with the approval of the Division Committee in charge, be authorized to select certain schools into which departmental instruction should be introduced, and tried in whole or in part during the school year 1894-95. This report and recommendations were adopted by the Board early in 1894, and eight schools were selected in which the instruction, to some extent at least, should be departmental. In May, 1895, an order was passed by the Board that the experiment be continued another year, and that the Board of Supervisors be instructed to investigate and report results to the Board on or before May 1, 1896. This subject is of great and general import, and the report of the Board of Supervisors is looked for with keen interest.

Parallel Courses of Study. — In December, 1894, on the recommendation of the Committee on Examinations, who, together with the Board of Supervisors, had given much careful consideration to the subject, the Board adopted a four years' course of study for the Grammar Schools, making two parallel courses for this grade, — the six years' course, then in operation, and the four years' course. The Superintendent has for several years given much attention to the matter of time required for the Grammar School course of study. One of the opportunities for shortening the course of pupils through the Grammar Schools will be afforded by the four years' course.

It seems probable that there may be for considerable numbers of pupils a saving of two years in the whole course, and for larger numbers a saving of one year.

Enrichment of the Grammar School Course of Study. — In September, 1894, the Superintendent submitted a proposition to the Board that he be authorized to introduce the studies of Latin, French, German, geometry, algebra, and physics into the Grammar Schools in which are found teachers able and willing to teach any children whose parents wish them to be taught any of these subjects. The Committee on Examinations to whom the proposition was referred reported in favor of the matter, and presented an order that the experiment be tried. This order was referred to the Board of Supervisors, who submitted a report to the School Committee in October, 1894, approving the suggestion of the Superintendent, and recommending the passage of the order presented by the Committee on Examinations. The order was passed by the Board, and later in the year text-books were authorized to carry out the experiment. It was well into the mid-year, however, before the work could be begun.

The Superintendent in his report of March, 1895, in alluding to this subject, states the following:

Speaking generally, it may be said that there is every reason to feel encouraged by the way in which the project of enriching the Grammar School courses by the introduction of new branches has been taken up by the masters. The question has been asked, Why not require at once the introduction of the new branches into all the schools alike? My answer has been that I would not make such a requirement if I could, much as I desire to see

the work of enrichment go on. It is much better, in my opinion, that the work proceed by the voluntary coöperation of the masters, each acting with a consciousness of his own part and responsibility in the matter; for, although results may be longer in coming this way, they are more likely to be excellent and permanent when they come. Not all the schools are yet provided with teachers able to teach the new branches well; but there are some teachers who are preparing themselves for the work; and there are some principals now on the lookout for properly prepared teachers with whom to supply the next vacancies in their schools. Another year, I feel sure, a more extensive introduction of the new branches may be looked for; and the amount of work will undoubtedly be greater when it can start at the beginning instead of after the middle of the year.

Omission of Diploma Examinations. — In 1893 the question of omitting the diploma examinations was earnestly discussed by the Board. A substitute plan for the diploma examinations, presented by the Board of Supervisors, was adopted by the School Committee, as was also a substitute plan for the examinations for promotion from the Primary to the Grammar Schools. In 1894 the Board, upon the recommendation of the Committee on Examinations, and in accordance with the opinion of the Superintendent, voted to continue the substitute plan another year.

In June, 1895, the Committee on Examinations were requested to consider the results of the experiment of omitting the diploma examinations, and report their conclusions to the Board. The Committee presented their report Oct. 22, 1895. As this report relates to an important matter, the committee consider it of sufficient interest to reprint the report in full.

The Committee on Examinations, who were requested — June 11 — to consider the results of the experiment of omitting the diploma examinations and report their conclusions with recommendations, reported that at their request the Board of Supervisors took the subject into consideration, and submitted to this committee the following report:

To the Committee on Examinations :

The Board of Supervisors has carefully considered the subject of diploma examinations referred to it by your committee, and respectfully submits the following report:

The suspension of the diploma examinations during the last two years has resulted —

1. In improving the instruction in the graduating classes. Much time heretofore spent in review and repetition in anticipation of the supposed requirements of the Supervisors' examinations has been used in considering new phases of the subjects, or in treating the familiar phases in a broader way.

2. In relieving teachers and pupils from the anxiety and worry inseparable from an examination where important personal interests are at stake.

3. In continuing the regular work of the graduating classes to the close of the school year, thereby gaining several weeks for instruction.

4. In leading the pupils to attach higher value to constancy and fidelity in the daily work throughout the year.

The Board has made careful investigation, and fails to find evidence that there has been any lowering of the standard of scholarship, or any diminution in the amount of work accomplished. On the contrary, there has been a gain in breadth of view and in general intelligence.

In view of these results the Board of Supervisors offers the following recommendations:

1. That the Supervisors' examinations for transfers from the primary to the grammar schools, and for graduation from all the schools, be permanently discontinued.

2. That all examinations for transfer and graduation be under the direction of the principals of the schools.

3. That in June of each year the principals of the grammar

schools report to the Board of Supervisors on the scholarship of the members of the first classes in the primary schools, with their recommendations as to transfer to the grammar schools.

The Board of Supervisors shall decide what pupils shall be transferred. Cases of appeal from their decision shall be referred to the Committee on Examinations, whose decision shall be final.

4. That in June of each year the principals of grammar, high, and Latin schools, and the principal of the Normal School, report to the Board of Supervisors the standing in conduct and scholarship of the members of the graduating classes, with their recommendations as to the granting of diplomas. The Board of Supervisors shall decide what pupils shall receive diplomas. Cases of appeal from their decision shall be referred to the Committee on Examinations, whose decision shall be final.

5. That the Board of Supervisors have power to examine any or all of the classes in the schools at such times of the year as they deem best, for the purpose of setting standards of attainment, guiding the instruction, and securing a proper degree of unity throughout the school system.

Respectfully submitted,

EDWIN P. SEAVER,

Chairman of the Board of Supervisors.

This committee approve the recommendation of the Board of Supervisors, and submit the same to the Board for adoption.

The committee recommend the passage of the following order:

Ordered, That the Committee on Rules and Regulations be requested to submit to the Board the necessary amendments to the Rules and Regulations to carry out the recommendations of this report.

The report was accepted and the order passed.

The Committee on Rules and Regulations submitted a report embodying changes in the Rules and Regulations to carry out the first, third, and fourth recommendations of the report above quoted. The

committee thought it unnecessary to amend the Regulations so far as the second and fifth recommendations of the report were concerned. The amendments to the Rules and Regulations were adopted.

KINDERGARTENS.

In January, 1889, five months after the School Committee adopted the fifteen Kindergartens, which had been previously supported by private charity, there were nineteen Kindergartens. At present (January, 1896) there are fifty-nine Kindergartens. There are eight Grammar School districts in which Kindergartens have not yet been established. It is the desire and hope of the committee in charge that those may soon be provided for, so that there will be at least one Kindergarten in every school district.

In the report of the Committee on Kindergartens (School Doc. 17, 1894), special attention was called to the connection between the Kindergartens and the Primary Schools. In their report the committee state:

The connection between the Kindergarten and Primary School is of the greatest importance. The Primary School has adopted some of the methods of the Kindergarten, but no systematic union yet exists. This is due to the fact that the Kindergarten is not fully recognized as preparatory to the Primary School work, but still remains an independent organization which children may attend or not, as parents desire; therefore the lowest grade Primary is composed of pupils who have been one or two years in the Kindergarten and those who have never attended school before. The pupils from the Kindergarten are in number, form, color, language, and manual training far in advance of the pupils who have never attended school before. Yet

the Primary School does not take this into account, and too often repeats this work of the Kindergarten in these subjects.

The committee speak with confidence that it is possible to save one year out of the four now required to pass through the Kindergartens and Primary Schools. They made certain recommendations concerning the connection between the Kindergarten and the Primary School.

By an order passed by the Board in January, 1895, the Board of Supervisors were requested to consider the recommendations of the report alluded to above, with a view to making the connection between the Kindergartens and Primary Schools closer than it has been, and reducing the number of pupils in the Primary classes.

In April, 1895, the Board of Supervisors asked for further time for the consideration of the matter referred to them, in order that they might have the benefit of the knowledge and experience of Miss Arnold, Supervisor-elect. The request for further time was granted, and at the meeting of the Board, December 10, the Board of Supervisors presented their report, recommending (1) that a series of meetings be arranged whereby teachers now employed in the lowest Primary grade may be helped to a knowledge of Kindergarten principles, and that similar meetings be planned for instructing kindergartners in the aims and needs of Primary work; (2) that changes be made in regard to the examination for certificates to teachers of the lower Primary work, and of the Kindergartens; (3) that steps be taken

to reduce the number of pupils to a teacher in the third class of the Primary Schools; (4) that the programme of the lowest Primary classes be so arranged as to allow at least one hour a day in Kindergarten games, story-telling, etc.; and that when practicable these games shall take place in the Kindergarten rooms which are unused in the afternoon; (5) that immediate steps be taken, in certain districts at least, to classify together all pupils who have been taught in the Kindergarten, in order that we may judge, (*a*) in what respects their needs differ from those of pupils without Kindergarten training, (*b*) that we may thus learn how the Primary course should be modified for Kindergarten pupils. The report of the Board of Supervisors will probably receive the early attention of the Board.

EVENING SCHOOLS.

The Evening High School, in the language of the Supervisor in charge, "has become an institution of solid worth; nor is it soon to reach the limit of its growth, or the bounds of its beneficence."

Last year important changes were made in the courses of study, and new courses were tried. The standing in arithmetic was raised, and more study was given to what is commonly called commercial arithmetic. Physics was studied in the school for the first time, and it was found practicable for the class to use the physical laboratory of the English High School. The first course was studied enthusiastically and completed. The two courses will include as much as is done in physics by the senior

classes of the day High Schools. Chemistry has been offered as a study this year. The study of American literature was added to the English course last year, and was pursued with interest and vigor. In the French and German languages, the standard of scholarship has been decidedly raised, and the study of French and German language begun.

In June, 1894, the Committee on Examinations were granted power to report the revised course of study for the Evening High School in print. Since that time several changes have been made in the course. The Committee on Examinations requested the Board of Supervisors to prepare a course of study for that school.

The Board of Supervisors, in a special report to the Committee on Examinations, which was presented to the Board in November last, state the following :

The standard subjects of the course of study for the Evening High School were (1) English, including the elements of composition and grammar, of rhetoric, and of literature; (2) Latin, French, and German; (3) history and civil government; (4) physiology; (5) arithmetic, elementary algebra, and plane geometry; (6) penmanship; (7) phonography; and (8) book-keeping.

Within two years the School Committee has authorized (1) an extension of the course of study in English literature so as to include the study of the later standard authors; (2) a course in American literature; (3) the study of solid geometry and of advanced algebra; (4) the study of physics and of chemistry; and (5) the study and practice of typewriting.

No class has, as yet, been formed for the study of the later English authors, nor for the study of solid geometry and of advanced algebra. Classes in American literature and in physics were formed last year; and other classes are pursuing the same

studies this year. Although the work done by these classes has been excellent and the results good, yet desirable details of the course of instruction have not as yet been determined. An advanced course in physics has been laid out, but not as yet tried; classes in chemistry have been lately formed, and are pursuing a course similar to that laid out for the English High School; and classes in typewriting have, as yet, been prevented from beginning their work. What can be accomplished in the Evening High School by classes in physics, chemistry, and typewriting can only be determined by experiment and after careful observation. It seems, therefore, unwise to set limits and fix details, until further investigations have been made.

The Board of Supervisors recommended (1) that it be authorized to guide the instruction in the Evening High School until sufficient facts have been gathered for determining the limits and the desirable topics of the courses in the several subjects of study; (2) that from materials thus gathered the Board of Supervisors prepare courses of study, and report the same to the Committee on Examinations. These recommendations were adopted by the Board.

There are at present twelve Evening Elementary Schools. The Committee on Evening Schools in the spring took under consideration the subject of the Evening Schools, with a view to increasing their efficiency, and of ascertaining if it were possible to secure greater economy without detracting from the usefulness of such schools. After careful and mature deliberation it appeared to the committee that the two schools which had been maintained for the special instruction of English to foreigners might be consolidated with others without injury or detriment to either pupils or schools, and in the interest of a

wise and prudent economical management of the Evening School service. The committee found that the opinions of the Board of Supervisors were in consonance with their own, and accordingly the change was effected. As was quite natural, the purpose of the committee was at first misinterpreted, and there appeared a few remonstrants to the change; but as the matter has been demonstrated to be really in the interest of all the Evening School pupils, all signs of dissatisfaction have disappeared.

We believe the Evening Schools are in a prosperous condition, that the benefits derived from them are more and more appreciated, and that no part of the public money is more wisely expended than that applied to these schools.

EXPENDITURES.

The annual reports of the School Committee, as has been stated, are usually presented to the Board in December. The reports of the financial committees of the Board are presented in March, as the year covered by such reports ends January 31. It will be readily seen, therefore, that the Committee on the Annual Report are not possessed of the information which permits them to present more than a general statement of the appropriations and expenditures of the year covered by their report.

The Rules of the School Committee provide that the Committee on Accounts, after conference with the Committee on Supplies, shall annually prepare and present to the Board in print, on or before the last regular meeting in December, an estimate of the

expenses of the public schools for the next financial year. This estimate, after approval by a two-thirds ye and nay vote of the Board, shall be sent to the City Auditor.

The Committees on Accounts and Supplies are each composed of five members of the Board, so that the important duty of preparing the estimates is intrusted to ten members, nearly a majority of the whole membership of the School Committee. The estimates are itemized in detail, and are printed in full in the newspaper in which are printed the proceedings of the Board, so that any person sufficiently interested can readily see the amount required for each department of the school service.

Every item of expense and bill of expenditure comes under the personal scrutiny of ten members of the Board. The Committee on Supplies are required under the Rules to include in their annual report an account, in detail, of the articles furnished to the several grades of schools, as well as the material on hand. The Committee on Accounts are required to include in their annual report an account, in detail, of the expenditures of the preceding year. These documents are public, and can be easily referred to by any citizen who cares to inform himself of these matters.

There is no duty assigned to the School Committee to which more careful and conscientious attention is given than that of caring for the proper and judicious expenditure of the public money appropriated for the public schools. The Board is confident that no just criticism can be made of the manner in which this public trust has been exercised by them.

In December, 1894, the School Committee submitted estimates, exclusive of repairs, to the amount of \$1,988,000. The amount requested for repairs of school-houses was \$230,000. In addition to these amounts, the sum of \$184,000 for school-houses, special appropriation, was asked for. This amount included \$50,000 for new ventilating apparatus for school-houses, as per request of State and City Boards of Health; \$50,000 for additional means of egress from school-houses, and fire-proofing, as per request of the Inspector of Buildings; \$50,000 for new sanitary apparatus for school-houses demanded by the Board of Health; and items for furnishing school-houses and grading of school lots. The City Council granted two appropriations for the public schools: one of \$1,920,000, under the head of "School Committee," a reduction of \$68,000 from the amount asked for; and one of \$210,000, under the head of "Public Buildings, Schools," a reduction of \$20,000 from the amount asked for; while the special appropriation was passed over in silence, as similar requests have been passed over for several years.

At a meeting of the Board, Nov. 12, 1895, the Committee on Accounts presented a report that the Board had endeavored to keep the expenditures as nearly within the appropriation granted as the welfare of the schools would permit, and requesting that an additional sum of \$42,000 be provided for school expenditures for the remainder of the year. The report was unanimously adopted and sent to His Honor the Mayor. The additional amount necessary to meet the expenses for the year was provided.

The following table shows the expenditures made for carrying on the schools, exclusive of furniture, repairs, and new school-houses, since the reorganization of the Board, a period of eighteen years and nine months.

YEAR.	xpenditures.	Income.	Net Expenditures.	No. of Pupils.	Rate per Pupil.
1876-77 . .	\$1,525,199 73	\$21,999 03	\$1,503,200 70	50,308	\$29 88
1877-78 . .	1,455,687 74	30,109 31	1,425,578 43	51,759	27 54
1878-79 . .	1,405,647 60	32,145 54	1,373,502 06	53,262	25 79
1879-80 . .	1,416,852 00	49,090 28	1,367,761 72	53,981	25 34
1880-81 . .	1,413,763 96	73,871 08	1,339,892 88	54,712	24 49
1881-82 . .	1,392,970 19	69,344 08	1,323,626 11	55,638	23 79
1882-83 . .	1,413,811 66	73,278 56	1,340,533 10	57,554	23 29
1883-84 . .	1,452,854 38	79,064 66	1,373,789 72	58,788	23 37
1884-85 . .	1,507,394 03	39,048 26	1,468,345 77	59,706	24 59
1885-86 . .	1,485,237 20	31,213 34	1,454,023 86	61,259	23 74
1886-87 . .	1,485,343 29	33,388 28	1,451,955 01	62,259	23 32
1887-88 . .	1,536,552 99	37,092 81	1,499,460 18	62,226	24 10
1888-89 . .	1,596,949 08	39,585 52	1,557,363 56	64,584	24 11
1889-90 . .	1,654,527 21	39,912 30	1,614,614 91	66,003	24 46
18 0-91 . .	1,685,360 28	41,209 06	1,644,151 22	67,022	24 53
1891-92 } nine months }	1,295,981 34	30,757 31	1,265,224 03	67,696	18 69
1892-93 . .	1,768,985 64	37,578 66	1,731,406 98	68,970	25 10
1893-94 . .	1,822,052 26	40,709 13	1,781,343 13	71,495	24 92
1894-95 . .	1,885,537 38	38,604 35	1,846,933 03	73,603	25 09

In the following table the total net expenditure incurred by the School Committee, exclusive of repairs, is divided into five items. The net amount expended for each of these items during the past eighteen years and nine months is herewith shown.

	Salaries, Instructors.	Salaries, Officers.	Salaries, Janitors.	Fuel, Gas, and Water.	Supplies and Incidentals.
1876-77 .	\$1,190,575 10	\$56,807 56	\$77,654 63	\$55,490 16	\$122,673 25
1877-78 .	1,128,430 40	58,035 94	75,109 93	53,321 70	110,680 46
1878-79 .	1,055,288 32	55,462 18	73,728 94	47,678 94	111,343 68
1879-80 .	1,085,324 34	53,679 74	74,594 40	40,920 22	113,243 02
1880-81 .	1,087,172 23	52,470 00	77,204 10	57,483 62	65,562 98
1881-82 .	1,085,459 28	55,993 83	79,791 50	57,593 17	44,788 33
1882-83 .	1,094,491 01	57,038 83	81,231 84	60,863 11	46,858 31
1883-84 .	1,118,751 87	58,820 00	83,182 71	66,068 59	46,966 55
1884-85 .	1,143,893 48	60,020 00	84,982 91	61,325 41	118,123 97
1885-86 .	1,162,566 65	58,910 00	86,601 38	58,417 53	87,528 ₃₀
1886-87 .	1,182,092 18	55,739 67	89,802 95	57,216 67	67,103 54
1887-88 .	1,202,685 55	57,608 00	98,947 00	71,048 76	69,170 87
1888-89 .	1,247,482 78	58,157 00	99,248 74	75,067 07	77,407 97
1889-90 .	1,295,177 76	58,295 00	101,399 05	73,580 27	86,162 83
1890-91 .	1,325,984 68	60,112 33	103,420 72	69,524 54	85,108 95
1891-92 } nine months }	1,005,050 71	45,638 33	78,652 64	56,665 22	79,217 13
1892-93 .	1,391,121 05	60,566 83	110,669 83	77,872 75	91,176 52
1893-94 .	1,432,808 21	62,023 34	114,512 85	86,666 99	85,331 74
1894-95 .	1,495,799 61	58,970 00	118,336 49	77,291 91	96,535 02
Total . . .	\$22,760,155 21	\$1,084,348 58	\$1,709,122 61	\$1,204,096 63	\$1,604,983 37
Average . .	\$1,197,902 91	\$57,070 98	\$89,953 82	\$63,373 51	\$84,472 81

The average annual increase in pupils during the time covered by the above table was about one thou-

sand three hundred, which should enter into the account in comparing expenses.

The following table shows the cost of repairs made and furniture provided since 1876-77:

YEAR.	Expenditures.	Income.	Net Expenditures.	No. of Pupils.	Rate per Pupil.
1876-77 . .	\$165,876 72	. . . . .	\$165,876 72	50,308	\$3 30
1877-78 . .	126,428 35	. . . . .	126,428 35	51,759	2 45
1878-79 . .	114,015 32	. . . . .	114,015 32	53,262	2 14
1879-80 . .	98,514 84	. . . . .	98,514 84	53,981	1 82
1880-81 . .	145,913 55	\$205 00	145,708 55	54,712	2 66
1881-82 . .	178,008 88	247 50	177,761 38	55,638	3 19
1882-83 . .	189,350 83	231 00	189,119 83	57,554	2 29
1883-84 . .	186,852 18	300 00	186,552 18	58,788	3 17
1884-85 . .	198,059 11	526 50	197,532 61	59,706	3 31
1885-86 . .	188,435 63	137 50	188,298 13	61,259	3 07
1886-87 . .	171,032 71	295 92	170,733 79	62,259	2 74
1887-88 . .	243,107 89	221 00	242,886 89	62,226	3 90
1888-89 . .	251,736 17	153 00	251,583 17	64,584	3 90
1889-90 . .	262,208 75	850 20	261,358 55	66,003	3 96
1890-91 . .	263,860 16	208 00	263,652 16	67,022	3 94
1891-92 nine months { .	205,344 27	595 50	204,748 77	67,696	3 02
1892-93 . .	221,905 53	165 00	221,740 53	68,970	3 22
1893-94 . .	190,465 06	. . . . .	190,465 06	71,495	2 66
1894-95 . .	214,252 47	25 00	214,227 47	73,603	2 91

The appropriation made and expenditures incurred for repairs, etc., of school-houses have been reduced nearly \$50,000 annually for the past four years as compared with the four years preceding, although the number of buildings and their requirements have largely increased.

SALARIES OF TEACHERS.

The largest item of expense connected with the public schools is, of course, the salaries of the teachers; and it is eminently proper that the greatest care, judgment, and earnest consideration should be exercised relative to this item of expenditure. The subject of increasing the salaries of the teachers has recently received the attention of the Board, and though this committee do not consider this report a proper medium for the discussion of their individual views upon the matter; yet they do not deem it out of place or untimely to present certain statements of fact concerning the salaries of the teachers of our schools.

The salaries of the teachers as fixed in 1867 were continued at the same rates until 1877, when a reduction in the salaries of all the instructors was made. The following year, 1878, another general reduction was made. It was in 1878 that the present system of graded salaries was adopted. In 1879 another attempt to still further reduce the salaries of instructors was made, but the Board decided against the measure and re-adopted the schedule of the previous year. In 1881 the Committee on Salaries presented two reports, — a majority report recommending a general reduction in salaries, and a minority report recommending the continuance of the salaries at the rates then paid. By a large majority the Board determined that there should be no alterations in the salaries for the year, except that in the

grades of the third and fourth assistants the minimum salary was reduced from \$504 to \$456 and an additional year added to the scale ; also in the grade of junior-masters in the High School the minimum salary was reduced from \$1,440 to \$1,008, and three additional years added to the scale. Since 1881 the salaries of the teachers have practically remained as then fixed. There were consolidations of certain grades,—for example, the different grades of male and female teachers in the High Schools were consolidated, making one grade of male teachers and one grade of female teachers; also in the Grammar Schools the grades known as sub-masters, and ushers, or second sub-masters, were made one grade; and the grades known as first assistants and second first assistants were made one grade. It should be remembered that in these consolidations of grades the maximum of the high grade was taken as the maximum of the new grade.

In order that the changes in the salaries of the teachers of the several grades may be readily seen, the committee present the matter in the following form:

Normal School.

The salaries of the teachers in the Normal School were the same as those of the same ranks in the High Schools previous to 1886. In that year a separate schedule was adopted for the Normal School. The salary of the head-master is and has been the same as of the head-masters of the High Schools

(\$3,780). The position of sub-master in this school was established in 1889. No changes have been made in these salaries since their establishment.

	Sub-Master.	First Assistant.	Second Assistant.
	1889.	1886.	1886.
Increase	\$60	\$36	\$48
1st year	\$2,196	\$1,440	\$1,140
2d "	2,256	1,476	1,188
3d "	2,316	1,512	1,236
4th "	2,376	1,548	1,284
5th "	2,436	1,584	1,332
6th "	2,496	1,620	1,380

Head-Masters of High Schools:

	1876.	1877.	1878.
First year	\$3,500	\$3,300	\$3,780
Second year	4,000	3,780	(—)

High Schools.

	Usher.		Junior-Master.		Sub-Master.		Junior-Master.		Master.		Junior-Master.	
	1876.	1877.	1878.	1881.	1876.	1877.	1878.	1881.	1876.	1877.	1878.	1881.
Increase			\$144	\$144			\$144	\$144			\$144	\$144
1st year	\$1,700	\$1,500	\$1,440	\$1,008	\$2,200	\$2,100	\$1,440	\$1,008	\$2,800	\$2,700	\$1,440	\$1,008
2d "	2,000	1,800	1,584	1,152	2,600	2,400	1,584	1,152	3,200	3,000	1,584	1,152
3d "			1,728	1,296			1,728	1,296			1,728	1,296
4th "			1,872	1,440			1,872	1,440			1,872	1,440
5th "			2,016	1,584			2,016	1,584			2,016	1,584
6th "			2,160	1,728			2,160	1,728			2,160	1,728
7th "			2,304	1,872			2,304	1,872			2,304	1,872
8th "			2,448	2,016			2,448	2,016			2,448	2,016
9th "			2,592	2,160			2,592	2,160			2,592	2,160
10th "			2,736	2,304			2,736	2,304			2,736	2,304
11th "			*2,880	2,448			*2,880	2,448			*2,880	2,448
12th "				2,592				2,592				2,592
13th "				2,736				2,736				2,736
14th "				*2,880				*2,880				*2,880

* With rank of master.

Upon the adoption of the present system of graded salaries in 1878, it was provided that masters elected as principals of High Schools, whose average whole number for the preceding school-year exceeds one hundred pupils, receive \$288 each, in addition to the regular salary of the rank. This proviso has continued ever since.

In 1878 the Rules were amended so as to provide that all male instructors in the High Schools who are not principals shall be masters and junior-masters. Such instructors who have been employed ten years or more as regular teachers in the High Schools

of this city shall be masters; and those who have been employed less than ten years shall be junior-masters. In 1876 the salary of the assistant principal of the Girls' High School was \$2,000. In 1877 the salary was reduced to \$1,800, and has remained so since. In 1876 the salary of the first assistant, High Schools, was \$1,800. In 1877 the salary was reduced to \$1,620. In 1878 the present scale was adopted, and the salary of this position fixed as follows: first year, \$1,440; annual increase for five years, \$36; maximum salary for the sixth and subsequent years \$1,620. Previous to 1883 the ranks of the female teachers in the High Schools were first, second, third, and fourth assistants. In 1883 the Rules were amended to provide that the rank of first assistant in the High Schools should be abolished as these positions became vacant. The ranks of second, third, and fourth assistants were abolished, and the rank of assistant established. The following table shows the changes in the salaries of the second, third, and fourth assistants (afterward assistants) in the High Schools:

	Second Assistants.			Assts.	Third Assistants.			Assts.	Fourth Assistants.			Assts.
	1876.	1877.	1878.	1883.	1876.	1877.	1878.	1883.	1876.	1877.	1878.	1883.
Increase	\$36	\$48	. . . . .	. . . . .	\$36	\$48	. . . . .	. . . . .	\$36	\$48
1st year	\$1,500	\$1,380	\$1,200	\$756	\$1,200	\$1,140	\$960	\$756	\$1,000	\$900	\$768	\$756
2d "	1,236	804	. . . . .	. . . . .	996	804	. . . . .	. . . . .	804	804
3d "	1,272	852	. . . . .	. . . . .	1,032	852	. . . . .	. . . . .	840	852
4th "	1,308	900	. . . . .	. . . . .	1,068	900	. . . . .	. . . . .	876	900
5th "	1,344	948	. . . . .	. . . . .	1,104	948	. . . . .	. . . . .	912	948
6th "	1,380	996	. . . . .	. . . . .	1,140	996	. . . . .	. . . . .	948	996
7th "	1,044	. . . . .	. . . . .	. . . . .	1,044	. . . . .	. . . . .	. . . . .	1,044
8th "	1,092	. . . . .	. . . . .	. . . . .	1,092	. . . . .	. . . . .	. . . . .	1,092
9th "	1,140	. . . . .	. . . . .	. . . . .	1,140	. . . . .	. . . . .	. . . . .	1,140
10th "	1,188	. . . . .	. . . . .	. . . . .	1,188	. . . . .	. . . . .	. . . . .	1,188
11th "	1,236	. . . . .	. . . . .	. . . . .	1,236	. . . . .	. . . . .	. . . . .	1,236
12th "	1,284	. . . . .	. . . . .	. . . . .	1,284	. . . . .	. . . . .	. . . . .	1,284
13th "	1,332	. . . . .	. . . . .	. . . . .	1,332	. . . . .	. . . . .	. . . . .	1,332
14th "	1,380	. . . . .	. . . . .	. . . . .	1,380	. . . . .	. . . . .	. . . . .	1,380

When the ranks of the High School teachers above referred to were consolidated and made one rank, and the salary for the new rank was established, it was provided (1) that the salary of no teacher of these ranks should be reduced, but continued until her years of service entitled her to an increase; (2) that those teachers whose years of service might place them on a higher salary than that which they were receiving, be placed on the year of service which would give them, under the new schedule, the next higher salary to that which they were receiving at the time of the adoption of the new schedule; (3) that each teacher entitled to an increase in salary

receive such increased salary from the next anniversary of the day of her appointment to her present position.

No change has since been made in the salaries of the teachers of High Schools as above stated.

Grammar and Primary Schools.

Previous to 1878 the male teachers of the Grammar Schools were designated masters, sub-masters, and ushers. In 1878 the title of "usher" was changed to "second sub-master." In 1881 the ranks of sub-master and second sub-master were consolidated under the title "sub-master," and the two schedules of salaries of the old ranks joined and made one schedule for the new rank; the minimum salary of the old rank of second sub-master becoming the minimum of the new rank, and the maximum salary of the old rank of sub-master becoming the maximum of the new rank; the difference of \$180 between the maximum of the old rank of second sub-master and the minimum of the old rank of sub-master, at the rate of the annual increase, \$60 a year, added three years to the schedule of the new rank.

The changes in the salaries of these ranks are shown in the following table :

	Master.			Sub-Master.				Usher and Second Sub-Master.			Sub-Master.
	1876.	1877.	1878.	1876.	1877.	1878.	1881.	1876.	1877.	1878.		1881.
Increase			\$60			\$60	\$60			\$60	\$60
1st year	\$2,500	\$2,700	\$2,580	\$2,200	\$2,100	\$1,980	\$1,500	\$1,700	\$1,500	\$1,500	\$1,500
2d "	3,200	3,000	2,640	2,600	2,400	2,040	1,560	2,000	1,800	1,560	1,560
3d "			2,700			2,100	1,620			1,620	1,620
4th "			2,760			2,160	1,680			1,680	1,680
5th "			2,820			2,220	1,740			1,740	1,740
6th "			2,880			2,280	1,800			1,800	1,800
7th "							1,860				1,860
8th "							1,920				1,920
9th "							1,980				1,980
10th "							2,040				2,040
11th "							2,100				2,100
12th "							2,160				2,160
13th "							2,220				2,220
14th "							2,280				2,280

When the ranks of the sub-master and second sub-master were consolidated, and the salary for the new rank was established (Sept. 27, 1881), it was provided that the salary of no sub-master formerly of the grade of second sub-master be reduced, but continued at the rate then paid until his years of service entitled him to an increase; those on the maximum salary of that grade were to be considered as on their sixth year of service, to date from Oct. 1, 1881.

Since 1878 there has been no change in the salary of the masters, and since 1881 there has been no change in the salary of sub-masters.

When the present system of graded salaries was

adopted in 1878, it was provided that sub-masters of Grammar Schools elected as principals receive \$216, and first assistants of Grammar Schools elected as principals receive \$144, each, in addition to the regular salary of the rank.

In 1876 the ranks of the female teachers in the Grammar and Primary Schools were first assistant, second first assistant, second, third, and fourth assistants. In 1878 the Rules were amended, striking out the rank of second first assistant.

In 1881 the minimum salary of the third and fourth assistants was fixed at \$456 instead of \$504, and another year added to the schedule. When this change was made it was contemplated that it should be applied to those teachers who might thereafter enter the service; and to prevent the reduction in salary of teachers then employed it was provided that all third and fourth assistants then in the service of the city be credited with one additional year of service, and that the salary of no third or fourth assistant then in the service should be reduced, but continued at the rates then paid until her years of service, with credits allowed, should entitle her to an increase.

In 1880 the Board established the rank of second assistant in the Primary Schools. It was provided that in every Primary School having not less than four teachers, one of the teachers may be elected with the rank of second assistant, who shall perform such general duties in connection with said school as may be required by the principal under the direction of the Division Committee. The salaries of the second

assistants, Primary Schools, were the same as of the same rank in the Grammar Schools. In 1893 the Rules were amended so as to provide that a second assistant, Primary School, in a building having eight or more teachers shall receive a certain sum per annum in addition to the regular salary of the rank. This extra amount was fixed at \$60 per annum. The regular salaries of the second assistants in the Grammar and Primary Schools are the same.

The following table shows the changes in salaries of the female teachers in the Grammar and Primary Schools:

	First Assistant.			Second First Assistant.			First Assist-ant.	Second Assistant.			Third and Fourth Assistants.			
	1876.	1877.	1878.	1876.	1877.	1878.		1876.	1877.	1878.	1876.	1877.	1878.	1881.
Increase.			\$36				\$36			\$12			\$48	\$48
1st year	\$1,200	\$1,140	\$900	\$1,000	\$852	\$900	\$850	\$792	\$756	\$600	\$540	\$504	\$456	
2d "			936			936			768	700	660	552	504	
3d "			972			972			780	800	750	600	552	
4th "			1,008			1,008			792			648	600	
5th "			1,044			1,044			804			696	648	
6th "			1,080			1,080			816			744	696	
7th "													744	

The foregoing refer to the salaries of the regular teachers in the Normal, High, Grammar, and Primary Schools. It will be seen that the legislation since 1876 has been on the side of reduction of salaries; that while in a few cases the consolidation of ranks has led to the increase in salary of certain individual

teachers, the larger part of the salaries, especially those of masters, first, second, and third assistants in the Grammar Schools, and second and fourth assistants in the Primary Schools, have not been increased since 1878. Since 1883 there has been no increase in any of the salaries of the regular teachers in any of the schools.

SPECIAL SCHOOLS AND INSTRUCTORS.

Mechanic Arts High School.

The salaries of the teachers in this school have not been changed since their establishment, and are as follows:

Head-master	\$3,780
Masters	2,880
Junior-masters, first year, \$1,008; annual increase (for thirteen years), \$144; salary for the fourteenth year, and subsequent years, with the rank of master	2,880
Instructors, first year, \$1,500; annual increase, \$60; maximum	2,280
Assistant Instructors, first year, \$756; annual increase, \$48; maximum	1,380
Instructor of metal-working, first year, \$1,800; annual increase, \$60; maximum	2,580

Kindergartens.

In 1888 the Kindergartens which had been maintained for many years by Mrs. Quincy A. Shaw were assumed by the city. The following table shows the salaries of the teachers of the Kindergartens :

	Instructor.		Principal.	Assistants.
	1876.	1877.	1888.	1888.
Increase			\$36	\$36
1st year	\$600	\$540	\$600	\$432
2d "	700	660	636	468
3d "	800	750	672	504
.			708	540

Horace Mann School.

The rank of first assistant was abolished and the rank of assistant-principal established in 1893. In that year the salaries of all the teachers except that of principal were changed.

	Principal.			First Assistant.	Asst. Principal.	Assistants.	
	1876.	1879.	1890.	1876.	1893.	1876.	1893.
Increase					\$60		\$60
1st year	\$1,500	\$1,800	\$2,508	\$900	\$1,068	\$700	\$588
2d "					1,128	800	648
3d "					1,188		708
4th "					1,248		768
5th "					1,308		828
6th "							888
7th "							948
8th "							1,008

Manual Training.

In 1886 the first Manual Training School was opened. In 1891 the rank of assistant instructor of

Manual Training Schools was established ; and in 1893 the position of Principal of Manual Training Schools was established.

	Principal of Manual Training Schools.	Instructors.			Assistant Instructors.	
		1893.	1886.	1892.	1891.	1892.
Increase						\$48
1st year	\$2,004	\$1,200	\$1,200	\$1,620	\$800	\$804
2d "						\$52
3d "						900

Music.

In 1876 there was a Director of Music and assistants. April, 1884, the office of Director was abolished and all the teachers in this branch were called "instructors in music." In 1893 the rank of "assistant instructors in music" was established, and four women were elected to these positions.

Director.		Assistant Directors.			Instructors.	Assistant Instructors.
1876.	1877.	1876.	1877.	1878.	1884.	1893.
\$3,300	\$3,000	\$3,000	\$2,500	\$2,640	\$2,640	\$852

Drawing.

In 1876 there was a Director of Drawing and several assistants. In September, 1880, the rank of

assistant was abolished. In 1892, an assistant director was elected, and has continued in office since.

Director.		Assistants.			Assistant.	
1876.	1877.	1876.	1877.	1878.	1892.	1895.
\$3,300	\$3,000	\$2,500	\$2,100	\$2,280	\$1,800	\$2,508

French and German.

Previous to 1886, each High School had its special teachers of French and German. In 1886 the position of Director of Modern Languages was established, and the salary fixed at \$3,000. At the same time, the position of assistant directors was established and the salary fixed at \$1,000; in 1888 the salary was increased to \$1,500. There is also a special teacher of modern languages in the Brighton, East Boston High, and Girls' Latin Schools, whose salary is \$660.

Physical Training.

In June, 1885, the position of Instructor in Hygiene was established, and in March, 1890, the position was abolished. In June, 1890, the Board voted that a Director of Physical Training and one or more assistants be employed. In November, 1890, a Director of Physical Training was elected at a salary of \$3,000 per annum, to date from Jan. 1, 1891. In March, 1891, an assistant was appointed. For many years there has been a teacher of physical culture in the Girls' High School. In 1883 a teacher of physical culture was elected in the Girls' Latin

School; in 1895 one was elected in the Roxbury High School, and one in the East Boston High School, the same person filling the positions in the Girls' Latin and East Boston High Schools. The office of Instructor in Military Drill has been in existence for more than thirty years. The salaries for these various positions are given below:

Instructor in Hygiene.	Director of Physical Training.	Assistant.		Instructor in Military Drill.		Teacher of Physical Culture.								
						Girls' High School.				Girls' Latin School.		Roxbury High School.	East Boston High School.	
1885.	1891.	1891.	1892.	1876.	1888.	1876.	1878.	1882.	1890.	1892.	1883.	1892.	1895.	1895.
\$3,000	\$3,000	\$1,650	\$2,000	\$1,500	\$2,000	\$600	\$744	\$960	\$1,008	\$1,200	\$492	\$600	\$1,200	\$300

The position of Director of Kindergartens was established in December, 1894, and a Director elected at a salary of \$2,880, to date from Jan. 1, 1895. In the Normal School there were a teacher and an assistant teacher of the theory and practice of the Kindergarten, but upon the establishment of the office of Director of Kindergartens the position of "teacher of the theory and practice of the Kindergarten" was abolished. The salary of the assistant is the same as that of a second assistant in the Normal School.

Schools of Cookery.

The Schools of Cookery were established in 1886, and the salary for the position is the same as that of a third assistant in the Grammar Schools, viz.: first year,

\$456; annual increase for six years, \$48; maximum salary for the seventh and subsequent years, \$744. In 1891 the position of Principal of the Schools of Cookery was established and the salary fixed at \$1,000.

Teachers of Chemistry.

There have been a special teacher of chemistry and a laboratory assistant in the Girls' High School for many years. Since 1893 there has been a laboratory assistant in the Roxbury High School. The salaries for these positions are shown below:

Teacher of Chemistry, Girls' High School.			Laboratory Assistant.				
			Girls' High School.				Roxbury High School.
1876.	1878.	1890.	1876.	1877.	1878.	1890.	1893.
\$1,500	\$1,380	\$1,620	\$800	\$750	\$744	\$804	\$804

Sewing.

The salaries of the sewing-teachers were fixed in 1878 at the following rates, and have not been changed since :

One division . . . \$108	Seven divisions . . . \$540
Two divisions . . . 192	Eight " . . . 588
Three " . . . 276	Nine " . . . 636
Four " . . . 348	Ten " . . . 684
Five " . . . 420	Eleven " . . . 732
Six " . . . 492	All over eleven divisions . . . 744

SCHOOL ACCOMMODATIONS.

For several years previous to 1889 but few new school-houses were erected, and there seemed to be a period of apathy on the part of the City Council concerning the requests of the School Board relative to school accommodations. During this time the demands for new school-houses increased, until in 1889 it seemed to be necessary to take immediate action. The Committee on School Houses of that year (1889) submitted to the Board a special report on permanent and temporary accommodations then needed. In their report the committee stated the following:

While several suggestions were made which would undoubtedly be desirable, and perhaps at some future time be required, the committee have so construed the desire of the Board, and have had in view the difficulties attending the obtaining the necessary appropriations, that they have confined their deliberations to the absolute needs of the present. . . . A large part of the recommendations contained in this report have been previously acted upon and forwarded to the City Council.

The City Council with awakened interest gave their earnest consideration to the subject, and met the requests of the School Committee in a liberal spirit, and granted such appropriations as they probably felt they could. Since then appropriations have been granted, but not sufficient to provide the accommodations needed. During the time the buildings were being erected, which in some cases seemed very long, the wants for new buildings continued to accumulate. In 1893 the School Committee asked

for an appropriation of \$637,000, and in 1894 they asked for \$898,500. Only a comparatively small part of these amounts was granted by the City Council. It must be remembered that the School Board had no power to provide for the expenditure of money for new buildings until the City Council had granted the necessary appropriations. It seemed an imperative duty of the Board to give this subject their earnest consideration. At a meeting of the Board, Sept. 25, 1894, the following order was passed:

Ordered, That the Committee on School Houses be requested to furnish the Board a full list of new school-houses now needed in this city, both to be established and rebuilt, with the probable cost thereof.

The Committee on School Houses submitted their report Dec. 27, 1894. The report stated that the sum of \$2,357,000 would be required to provide the needed school-houses. At a meeting of the School Board, Oct. 23, 1894, the Committee on Legislative Matters were "requested to formulate a plan on the basis of which this Board may request the State Legislature for an extension of the debt limit of this city, in order that at least one million dollars may be secured in 1895 for the purchase of sites and the erection of new school buildings." This Committee, at a meeting of the Board, Jan. 8, 1895, presented their report as follows:

The Committee on Legislative Matters, to whom was referred — October 23 — an order "that the Committee on Accounts be requested to formulate a plan on the basis of which the Board

may request the State Legislature for an extension of the debt limit of this city in order that at least one million dollars (\$1,000,000) may be secured during 1895 for the purchase of sites and the erection of new school buildings," report that this committee has delayed its report until the Committee on School Houses should have submitted their report on the list of school-houses now needed. The report of the Committee on School Houses was presented at the last meeting of the Board — Dec. 27, 1894. The amount required for new school-houses as stated in that report is \$2,357,000. This amount includes not only what is required for the purchase of sites and the erection of new buildings, but also what is required for the enlargement of certain buildings and the completion of the Mechanic Arts High School building, and the alterations of two school buildings, for which it has been impossible to obtain the necessary appropriations.

That there is a most pressing emergency in relation to our school accommodations all must concede, and there can be no doubt of the necessity of some immediate action to remedy our existing wants. It is the unanimous opinion of this committee that the Legislature should be petitioned to act in this matter. If it be thought proper by the Board, we are fully in favor of suggesting in the petition that the School Board, if they have not the power at present, be given the power to engage other architects than the City Architect, and to have the general control of the expenditure of such moneys as may be raised for this purpose. This suggestion is not made in any spirit of criticism of the City Architect, but to enable us to provide the new buildings as soon as possible. It appears to us that for the City Architect's department to provide all the school-houses called for would require a very long time, and by adopting the suggestion made several architects might be engaged, and thus hasten the completion of the buildings for which we are suffering.

The committee recommend the passage of the following order :

Ordered, That the President of the School Committee be requested to petition the Legislature for the passage of an act authorizing the city of Boston to borrow, outside of the debt limit, for the purchase of sites, the erection of new school build-

ings, and for the completion, enlargement, and alteration of school buildings, the sum of two million three hundred and fifty-seven thousand dollars (\$2,357,000). The expenditure of said sum to be wholly in the control of the School Committee for the purposes named.

This report was accepted and the order was passed.

At the meeting of the Board Jan. 17, 1895, the following order was passed:

Ordered, That the President of the School Committee be requested to petition the Legislature for the passage of an act authorizing the city of Boston to borrow, outside the debt limit, for the purchase of sites, the erection of new school buildings, and for the completion, enlargement, and alterations of school buildings, the sum of two million two hundred and thirty-five thousand dollars. The expenditure of said sum to be wholly in the control of the School Committee of said city.

In accordance with the above vote the petition was formally presented to the Legislature. While the matter was under consideration, the committee of the Legislature received information which led them to present an act which was not wholly in accord with the convictions of the School Board.

The School Committee, at a meeting April 9, 1895, passed an order requesting the President to present a petition to the Legislature to recommit the bill then under consideration to the Committee on Metropolitan Affairs, and that a hearing be given the School Board by said committee.

At the same meeting of the Board a special committee of five members was appointed, who were

empowered, if they succeeded in having the bill then before the Legislature entitled "An Act to provide for certain school-houses in the city of Boston" re-committed to the Committee on Metropolitan Affairs, to draw and submit a bill for said purpose which shall meet the wishes of the School Committee of the city of Boston. This special committee presented to the Board at the next meeting the form of a bill, as a substitute for the bill then before the Legislature. The Board passed the following order by a unanimous vote:

Ordered, That the School Committee cordially approves the general features of the bill reported by the special committee of five as a substitute for the bill entitled "An Act to provide for certain school-houses in the city of Boston," now pending before the Legislature, and authorize and instruct said committee to use every effort to obtain financial relief for the pressing needs of the schools not less in amount than provided for in said substitute bill.

The act as finally passed by the Legislature is as follows:

CHAPTER 408 OF THE ACTS OF 1895.

AN ACT TO PROVIDE FOR CERTAIN SCHOOL-HOUSES IN THE CITY OF BOSTON.

Be it enacted, etc., as follows:

SECTION 1. The school committee of the city of Boston shall have full power and control of the design, construction, erection, and furnishing of all school buildings, and are hereby authorized to select and employ an architect or architects to design said buildings and to supervise the construction and erection thereof; but no work upon any building shall be commenced until full general plans of such building shall have been prepared, and no specific work shall be commenced until the same shall have been

duly advertised, proposals for such work shall have been received from responsible parties, and contracts shall have been entered into, with satisfactory guarantees for their performance; *provided, however,* that no contract made under this act shall be valid unless approved by the mayor.

SECT. 2. The board of street commissioners of said city, at the request of the school committee, shall take, by purchase or otherwise, such lands for school purposes as said school committee, with the approval of the mayor, shall designate, and to take any lands under the right of eminent domain, shall sign and cause to be recorded in the registry of deeds for the county of Suffolk a statement containing a description thereof as certain as is required in a common conveyance of land, and stating that the same are taken for school purposes, and upon the recording of any such statement the lands described therein shall be taken in fee for said city.

SECT. 3. Said city shall pay all damages sustained by any person in his property by any taking as aforesaid, the same to be determined by agreement between said board and person; and if they cannot agree, said board or person may within one year after the date of the taking file in the office of the clerk of the superior court for the county of Suffolk a petition for a jury to determine such damages, and thereupon, after such notice as said court shall order, the damages so sustained shall be determined by a jury in said court, in the same manner as damages for lands taken for highways in said city are determined, and costs shall be taxed and execution be issued in favor of the prevailing party as in civil cases.

SECT. 4. The city treasurer of said city, to pay the expenses incurred for the lands taken and the building and furnishing of school-houses as aforesaid, shall from time to time, on the request of said school committee, issue and sell negotiable bonds of said city to an amount not exceeding five hundred thousand dollars in the current year, which shall be outside of the debt limit, and five hundred thousand dollars in the year eighteen hundred and ninety-six, and four hundred thousand dollars in each of the three following years, which shall be within the debt limit.

SECT. 5. Said bonds shall bear interest payable semi-annually

on the first days of January and July of each year; shall be registered or with interest coupons attached, be sold and disposed of in such manner and at such times and prices and in such amounts and at such rates of interest not exceeding four per cent. per annum, and for such terms not less than thirty nor more than forty years, as the treasurer with the approval of the mayor shall from time to time determine.

SECT. 6. Said treasurer shall hold the proceeds of said bonds in the treasury of said city and pay therefrom the expenses for said lands and school-houses; *provided, however,* that he shall pay over to the board of commissioners of sinking-funds of said city any premiums received by him in the sale of said bonds, and said commissioners shall place all amounts so paid by said treasurer in a sinking-fund for the payment of the bonds hereby authorized.

SECT. 7. This act shall take effect upon its passage. (Approved May 24, 1895.)

The chief differences in the bill proposed by the School Committee and the act as passed are, that in the bill proposed by the School Board the Street Commissioners were to take under the right of eminent domain such lands for school purposes as said School Committee shall designate, and that the whole amount should be available for expenditure by the School Committee without limitation. The act as passed provides that "the Board of Street Commissioners of said city, at the request of the School Committee, shall take, by purchase or otherwise, such lands for school purposes as said School Committee, *with the approval of the Mayor,* shall designate." The act as passed limits the expenditures under the act to five hundred thousand dollars for each of the years 1895 and 1896, and to four hundred thousand dollars for each of the three following years

— 1897, 1898, 1899. It will thus be seen that the school-houses which, in the judgment of the School Board, were of pressing necessity in December, 1894, will not all be provided until 1899, four years hence. It is, we believe, generally understood that the money granted under chapter 408 of the Acts of 1895 is to be expended for the erection and equipment of the buildings called for in the special report of the Committee on School-houses (School Document 18, 1894). In the meantime the demands for new school-houses will go on, and we trust that the City Council will find it wise and convenient to provide for these new demands and not to allow them to accumulate, so that at the end of five years we may not find another long list of needed school buildings to be provided.

The Act of 1895 (chapter 408) was approved May 24, 1895. In June, 1895, the City Treasurer was requested to issue during the year 1895 negotiable bonds of the city to the amount of five hundred thousand dollars. Out of this sum the School Board has made the following appropriations:

✓Primary School-house, Beech street, Roslindale	✓\$27,500 00 ✓
✓Lewis School-house, alterations	✓ 10,000 00 ✓
✓Primary School-house, North End, site,	✓100,000 00 ✓
✓Small wooden buildings for temporary accommodations	✓10,000 00 ✓
✓Rice Training School, alterations	✓10,000 00 ✓
✓Bigelow School-house, enlargement of lot	✓25,000 00 ✓

7 ✓	Purchase of Allston club-house	✓	\$21,000 00	✓
8 ✓	Edward Everett School-house, grading, wall, etc.	✓	5,000 00	
9 ✓	School-house, west of railroad, Roslin- dale, site	✓	9,200 00	
10 ✓	School-house, west of railroad, Roslin- dale, building	✓	70,000 00	✓
11 ✓	Brighton High School-house, furnishing,		21,000 00	
12 ✓	“ “ “ grading lot,	✓	7,500 00	✓
13 ✓	Canterbury-street School-house, grad- ing lot	✓	4,000 00	
14 ✓	High School, South Boston, site	✓	50,000 00	
15 ✓	Grammar School-house, Harris District,	✓	90,000 00	
16 ✓	School-house, Harvest street, Ward 15,	✓	10,000 00	
17 ✓	William Wirt Warren School-house, grading lot	✓	5,000 00	✓
18 ✓	High School, Dorchester, site	✓	24,000 00	
	Total		<u>\$499,200 00</u>	

The following shows the progress made under the above appropriations :

Primary School-house, Beech street, Roslindale. — The architect is Mr. George A. Avery. The contract for erecting the building was awarded Oct. 4, 1895, to Messrs. John McNamara & Sons, for the sum of \$21,473. This contract did not include the apparatus for heating and ventilation. The building is now in process of erection, and under the terms of the contract will be completed April 1, 1896. Bids for heating and ventilating the building have been received, but the contract has not been awarded.

Lewis School-house, alterations. — The architect is Mr. Lewis H. Bacon. The contract for this work was awarded Sept. 6,

1895, to Mr. Walter S. Sampson, for the sum of \$8,600. Under the terms of the contract this work is to be completed March 1, 1896.

Primary School-house, North End, site. — This matter has been under consideration, but no site has yet been designated by the Board.

Small wooden buildings. — Three of these buildings have been erected and occupied. Two others are in process of erection: (1) one on H street, South Boston, on land adjoining the lot of the Thomas N. Hart School-house; (2) in the yard of the Howard-avenue School-house, Dorchester. The contracts for both these buildings were awarded Nov. 19, 1895, to O'Connor & Furbush; the H-street building for \$1,895, and the Howard-avenue building for \$2,057. These buildings are nearly completed.

Rice Training School, alterations. — This work has been completed.

Bigelow School-house, enlargement of lot. — Land has been taken for this purpose by the Board of Street Commissioners.

Purchase of Allston Club-house. — This property has been purchased and the building is now occupied for school purposes.

Edward Everett School-house, grading, walls, etc. — The wall has been built.

School-house west of railroad, Roslindale. — The site for this building has been taken by the Board of Street Commissioners. Plans for the building are now being prepared by an architect selected by the Committee on School Houses.

Brighton High School-house, furnishing. — The contract for furnishing stationary furniture for this building has been awarded to Messrs. George S. Perry & Co., for the sum of \$4.35 for each school desk and chair. The contract for furnishing adjustable desks and chairs — one row in each room — has been awarded to the Chandler Adjustable Desk & Chair Company, for the sum of \$4.70 for each school desk and chair.

Brighton High School-house, grading. — The architects for this work are Messrs. Gray & Blaisdell. The contract was awarded Nov. 7, 1895, to Mr. James McGovern, for the sum of \$5,647. The work will soon be completed.

Canterbury-street School-house, grading lot. — The architects

for this work are Messrs. Gray & Blaisdell. The contract was awarded Oct. 28, 1895, to Mr. Thomas Minton, for the sum of \$7,350. The work will soon be completed.

High School, South Boston, site. — (See below, page 55.)

Grammar School-house, Harris District. — No plans for this building have been accepted.

School-house, Harvest street, Ward 15. — The architect is Mr. William H. Besarick. The contract for the building of this school-house was awarded Dec. 5, 1895, to Mr. Walter S. Sampson, for the sum of \$55,500. The building is now in process of erection, and will be completed under the terms of the contract July 1, 1896.

William Wirt Warren School-house, grading lot. — Contract not awarded.

High School, Dorchester, site. — A lot for a site for this school-house has been taken by the Board of Street Commissioners.

Since the passage of the act referred to, orders have been passed by the School Board requesting the Street Commissioners to take, by purchase or otherwise, land for school purposes as follows:

Moulton-street School-house, Charlestown. — Order passed by the Board, June 11, 1895, requesting Street Commissioners to take land for enlargement of lot. Approved by the Mayor, July 5, 1895. Notice of taking received by the Board, Oct. 22, 1895.

Harvest-street School-house, Ward 15. — Order passed by the Board requesting the taking of land for a site. Approved by the Mayor, July 5, 1895. Notice of taking by Street Commissioners received Sept. 10, 1895. Notice of terms of settlement received from the Street Commissioners, Sept. 10, 1895. Order to pay for land passed Sept. 10, 1895, and approved by the Mayor Sept. 12, 1895.

Cudworth School-house, East Boston. — Order passed by the Board, June 11, 1895, for taking of land for enlargement of lot. Approved by the Mayor, July 5, 1895. Notice of taking of land

received from the Street Commissioners, Sept. 10, 1895. Notice of terms of settlement received from the Street Commissioners, Dec. 24, 1895. The award was \$6,500. The appropriation granted by the City Council for the purpose was \$5,000, so that it will be necessary to have an additional appropriation of \$1,500 for this purpose.

Hancock School-house, North End. — Order passed June 25, 1895, for taking of land for the enlargement of the lot. Approved by the Mayor, July 5, 1895. Notice of taking received from Street Commissioners, Sept. 10, 1895. No notice of settlement has yet been received.

Primary School-house, Aberdeen, site. — Order passed July 9, 1895, by School Board for taking of land for site. Approved by the Mayor, July 19, 1895. Notice of taking received from the Street Commissioners, Sept. 10, 1895. Notice of terms of settlement received from Street Commissioners, Oct. 8, 1895. Order to pay for land passed by the Board, Oct. 8, 1895. Approved by the Mayor, Oct. 10, 1895.

School-house west of railroad, Roslindale. — Order passed Sept. 24, 1895, for taking two lots of land for a site. Approved by the Mayor, Sept. 27, 1895. Notice of taking received from Street Commissioners, Oct. 8, 1895. No notice of terms of settlement has as yet been received.

Edward Everett School-house, Dorchester. — Order passed Sept. 24, 1895, for taking land to enlarge the lot. Approved by the Mayor, Sept. 25, 1895. On Oct. 22, 1895, the Board received notice from the Street Commissioners that on Oct. 12, 1895, the city received a deed from the trustees of the Baker estate, of 1,595 square feet of land at the corner of Willis and Bakersfield streets, Dorchester, adjoining the Edward Everett School lot, for the consideration of one dollar.

Allston Club-house, Allston. — Order passed by the Board, Sept. 24, 1895, for the club-house property and building thereon. Approved by the Mayor, Sept. 27, 1895. Notice of taking received from the Street Commissioners, Oct. 8, 1895. Notice of terms of settlement received from the Street Commissioners, Dec. 18, 1895. Order passed Dec. 24, 1895, to pay for property taken. This order was sent to the Mayor for approval, who

returned the order, stating that on account of illness he had not been able to give the matter the attention it deserves, and he therefore returned the order without taking action thereon. The order was passed by the School Board Jan. 16, 1896, and approved by the Mayor Jan. 25, 1896.

High School, South Boston. — Order passed Oct. 22, 1895, for taking of land for site, and sent to the Mayor for approval. On Nov. 26, 1895, the Board received a communication from the Mayor, calling attention to the reservoir lot on Thomas Park as a site for the school-house, and recommending that the School Board pass the following orders:

Ordered, That His Honor the Mayor be requested to return to this Board the order passed Oct. 22, 1895, requesting the Board of Street Commissioners to take, by purchase or otherwise, for school purposes, nine lots of land with buildings thereon, on or near the corner of East Fourth and G streets, South Boston.

Ordered, That this Board approve of the "reservoir lot" in Thomas Park as a site for a High School for the South Boston District, and respectfully request the City Council to give the School Committee so much thereof as the Mayor shall approve as a site for said school and yard.

The communication was referred to the Committee on School Houses, who reported at the next meeting of the Board (Dec. 10, 1895), recommending the passage of the orders suggested by the Mayor. The orders were passed by the School Committee. The Board has recently received a copy of an order passed by the City Council and approved by the Mayor, "that so much of the reservoir lot in Thomas Park, South Boston, as the Committee on School Houses of the School Committee, with the approval of His Honor the Mayor, shall select for a High School for the South Boston District be surrendered to the School Committee to be used for said purpose whenever the Water Commissioners shall notify the Mayor that the same is no longer needed for the Water Department."

Bigelow School-house, South Boston. — Order passed by the Board, Nov. 12, 1895, for taking of land and buildings thereon to enlarge the lot. Approved by the Mayor, Nov. 20, 1895. Notice

of taking received from the Street Commissioners, Dec. 10, 1895
No notice of terms of settlement received.

High School-house, Dorchester. — Order passed Nov. 26, 1895,
by the Board for taking of land for a site. Approved by the
Mayor, Dec. 9, 1895, and forwarded to the Street Commissioners.
No notice received as yet.

Primary School-house, West End. — Order for taking of land
for a site, passed by the Board Dec. 10, 1895, and sent to the
Mayor for approval. The Mayor has returned the order stating
that he had not been able to give the matter the attention it
should have before the order is either approved or disapproved,
and he returned the order without taking any action upon it.
An order designating the same lot was passed by the Board Jan.
16, 1896, and sent to the Mayor for his approval.

The sanitary condition of the school buildings cannot be said to be satisfactory. This fact has been known for years, and the State and City Boards of Health have made many suggestions, and laws have been passed with the view of improving the sanitary condition of school-houses. As early as 1889 the School Committee began to ask the City Council for special appropriations for this purpose, and although the requests for such appropriations have been annually made to the City Council, no money for the purpose has been granted. In certain pressing emergencies, where further neglect and delay would be almost censurable, the improvements have been made and charged to the appropriation of repairs of school-houses, thus using money which, in our judgment, should be used for the purpose for which it was appropriated. In the estimates approved by the School Committee Dec. 27, 1895, and sent to the Mayor, a special appropriation was asked for, including (1) new

ventilating apparatus as requested by State and City Boards of Health, \$250,000; (2) new sanitary apparatus as requested by Board of Health, \$100,000; (3) additional means of egress and fire-proofing as requested by the Inspector of Buildings, \$50,000. We most respectfully call the attention of the City Council to these requests. There can be no question of their need and importance, and we trust that the City Council of 1896 will not subject these requests to the fate they have received in the past, but will grant the appropriations asked for.

There were several pressing needs for improvements in the sanitary condition of school-houses which the committee have been able to have completed through the courtesy and interest of the Mayor, who provided the necessary funds for the purpose.

COÖPERATION BETWEEN THE PUBLIC LIBRARY AND THE PUBLIC SCHOOLS.

In May, 1895, an order was passed by the Board requesting "the Superintendent and Board of Supervisors to consider and make a report on the subject of existing, and desirable and practicable, relations between the public schools and the public library in this city; and to embody in said report such recommendations and suggestions as may, in their judgment, lead to an increased coöperation between these two educational forces."

The Board of Supervisors submitted their report upon this subject to the Board in December, which was ordered to be printed. This report was presented too late to be considered by the Board of

1895, and will undoubtedly be given early attention by the Board of 1896.

SCHOOL FURNITURE.

For several years there has been much attention given to the subject of school furniture. Dr. Charles L. Scudder, who was granted permission by the Board to make a series of observations in certain of the public schools relative to lateral curvature of the spine, and round shoulders, among pupils, submitted a report to the Board in December, 1891, on "The Seating of Pupils in the Public Schools." This report was published by the Board. (School Document No. 9, 1892.) Dr. Hartwell, the Director of Physical Training, has given much time and thought to the subject of school desks and chairs, and has discussed the matter very fully in his reports. The Committee on School Houses have supplied some of the schools with the best models of adjustable furniture, for experimental purposes. It has frequently been urged that this subject of school furniture can be satisfactorily determined only by the impartial investigations of scientific experts. In November last, the Board received a communication signed by Clarence J. Blake, M.D., and sixty-three other members of the medical profession in this city, from which we quote the following:

The special purpose of this memorial is to urge upon your honorable body the great importance of providing our public schools with properly constructed desks and chairs, and to request that you will take still further action to attain that end.

We respectfully submit that the physical welfare of our school children and the interest of our taxpayers would be best subserved in this matter if the deliberate and dispassionate opinion of a body of competent experts were secured and published, as to the most important aspects of the school-seating question, and as to the most approved and economical means of settling it.

In view of the general agreement among physicians and hygienists who have investigated the subject, as to the importance of faulty school furniture in producing spinal deformities, muscular weakness, nervous debility, and impaired vision among school children; in view of the increasingly unsatisfactory nature of the school-seating question in this community, as well as in the country at large; in view of the good results which have been attained by school-desk commissioners in Europe; and in view of the measures hitherto taken by your honorable body in relation to this matter, — we respectfully ask that you supplement these measures by appointing a committee of experts, who shall serve without pay, to report to the School Committee upon the principles of seating, together with such recommendations as they deem appropriate under the circumstances.

In our judgment it is particularly desirable that such a committee should set forth the essential principles, both medical and mechanical, which are involved in the construction of school desks and chairs, and should make known the results of the most successful attempts to carry their principles into effect; since an authoritative exposition of principles for the guidance of all makers and buyers of school furniture is utterly lacking, and very much needed at the present moment among us.

This communication was referred to the Committee on Hygiene and Physical Training, who presented a report in December recommending that the suggestions of the memorialists be adopted, and that the President of this Board be requested to appoint a committee as recommended by the memorialists. This report was adopted and the following committee appointed: Dr. Edward M. Hartwell, Dr. Henry P.

Bowditch, Prof. Edward F. Miller, Dr. Edward H. Bradford, and Dr. Oliver F. Wadsworth. We believe the report of these gentlemen will be of inestimable value, not only to the School Committee of this city, but to school authorities throughout the country.

It becomes the painful duty of the committee to record the death of two of our most faithful and successful masters, — Mr. Alonzo G. Ham, and Col. Samuel Harrington. Mr. Ham had taught in the public schools of this city for more than twenty-eight years, and at the time of his death was master of the Thomas N. Hart School. Colonel Harrington had taught in the public schools of this city for about twenty-one years, and at the time of his death was master of the Eliot School, in which position he had served for more than nineteen years. Both of these gentlemen, by their long and faithful service, won the esteem and confidence of the Board, and the respect and love of their pupils. They leave honorable records of duties devotedly and conscientiously performed.

WILLARD S. ALLEN, *Chairman.*
S. ALBERT WETMORE.
GEORGE W. ANDERSON.

R E P O R T

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C O M M I T T E E O N A C C O U N T S .



TWENTY-SEVENTH ANNUAL REPORT.

COMMITTEE ON ACCOUNTS.

BOSTON, March, 1895.

To the School Committee :

The Committee on Accounts herewith present their report for the financial year 1894-95, in accordance with the Rules of the School Board, and also the detailed statement of expenditures prepared by the Auditing Clerk, as required by the Regulations.

The expenses include salaries of instructors, officers, and janitors, fuel, gas, and water, supplies and incidentals, and repairs and alterations of school-houses.

The expenditures for salaries of instructors and officers are prepared under the direction of this committee, in conformity with the action of the School Board. The City Treasurer pays the salaries of instructors monthly at the different school-houses; and for the convenience of the paymasters, nearly one hundred pay-rolls are prepared and furnished them, about the twentieth day of each month.

The pay-rolls for salaries of janitors are made up in accordance with the action of this committee, who have authority under the Rules to elect janitors subject to Civil Service conditions and fix their compensation.

The Rules provide that the Committee on Supplies have exclusive authority in furnishing all materials used by the Board, its officers, and the public schools; and all expenses excepting for salaries, and repairs and alterations of school buildings come under their direction.

The Committee on School Houses are authorized to supply all school furniture, and to cause to be made the necessary additions, alterations, and repairs on school buildings. The Superintendent of Public Buildings is employed by the School Board to carry into effect the orders of that committee.

Bills for expenditures made in this connection are sent to the office of the Superintendent of Public Buildings; and after being vouched for as correct by him, they are approved by the Committee on School Houses, scheduled, and forwarded to this office about the eighteenth day of each month.

The bills are figured and carefully examined in the office of the Committee on Accounts, approved, and sent to City Hall for payment. The monthly schedules are kept on file.

The sub-division of these expenditures, which appears later in this report, is prepared in the office of the Superintendent of Public Buildings.

Under date of Dec. 26, 1893, this committee submitted to the School Board an estimate of the amount needed by the schools for the ensuing year, exclusive of that required for the erection of new school buildings.

The estimates presented were approved by the School Committee and transmitted to His Honor the Mayor. They were as follows :

Salaries of instructors	\$1,529,440
Salaries of officers	61,260
Salaries of janitors	118,500
Fuel, gas, and water	88,000
Supplies and incidentals	115,800
School-houses — repairs, etc.	279,000
Total ordinary expenses	<u>\$2,192,000</u>
“ Special appropriation,” extraordinary repairs	<u>\$90,000</u>

The City Council granted two appropriations; one of \$1,840,000 under the head of School Committee, which in-

cluded the first five items,—a reduction of \$73,000; and the other, under the head of Public Buildings, Schools, to the amount of \$190,000, a reduction of \$89,000. No provision was made for the "special appropriation," extraordinary repairs.

It was evident at the beginning of the year that the amount granted, exclusive of that to be used for repairs, etc., \$1,840,000, would not prove sufficient to continue the schools as they were then constituted, as the estimates were carefully based upon existing conditions. This was proved at the end of the year by the fact that the sum requested for salaries of instructors, officers, and janitors, \$1,709,200, was within \$263.36 of the actual expenditures.

It was impossible for the Committee on Supplies to meet the entire reduction of \$73,000 from the appropriation under their charge, but by the exercise of strict economy and the fortunate change in the price of coal a saving of \$28,000 was effected.

The deficiency existing at the close of the year was met by an additional appropriation requested of and allowed by His Honor the Mayor. It amounted to \$67,220.31, of which \$24,252.47 were on account of repairs and alterations of school-houses.

The ordinary expenses for the past year were as follows :

Salaries of instructors	\$1,531,630 15
Salaries of officers	58,970 00
Salaries of janitors	118,336 49
Fuel, gas, and water	77,291 91
Supplies and incidentals :	
Books	\$39,351 43
Printing	4,980 39
Stationery and drawing materials, 14,709 66	
Miscellaneous items	39,410 59
	98,452 07
School-house repairs, etc.	214,252 47
Expended from the appropriation	\$2,098,933 09
<i>Carried forward,</i>	<u>\$2,098,933 09</u>

<i>Brought forward,</i>	\$2,098,933 09
Expended from income of Gibson fund	856 76
	<hr/>
Total expenditure	\$2,099,789 85
Total income	38,629 35
	<hr/>
Net expenditure, School Committee	<u>\$2,061,160 50</u>

Your committee, in preparing the estimates, stated that the probable income would be as follows :

Non-residents, State and city	\$15,000 00
Trust-funds and other sources	25,000 00
	<hr/>
Total estimated income	<u>\$40,000 00</u>

The income collected was as follows :

Non-residents, State and city	\$17,507 42
Trust-funds and other sources	19,204 88
Sale of books	204 27
State of Massachusetts, travelling expenses,	1,712 78
	<hr/>
Total income	<u>\$38,629 35</u>

The net expenses of the School Committee, compared with those for 1893-94, show an increase of \$89,352,31.

The average number of pupils belonging to the different grades the past year was 73,603. The average cost per pupil amounted to \$28, an increase, as compared with that of the previous year, of forty-two cents per pupil.

The increase in the average number of pupils the past year was 2,108, a reduction from the increase the previous year of 417 pupils. It is gratifying, however, to record the fact that the grammar and primary grades increased 1,844 pupils during the year.

The gross expenses for the past year, compared with those for 1893-94, show a variation in the different items of the appropriation as follows :

Salaries of instructors, increased	. . .	\$61,579 12
Salaries of janitors, increased	. . .	3,823 64
Supplies and incidentals, increased	. . .	10,561 10
School-houses, repairs, etc., increased	. . .	23,787 41
		<hr/>
		\$99,751 27
Salaries of officers, decreased	\$3,053 34	
Fuel, gas, and water, decreased	9,375 08	
	<hr/>	12,428 42
Total increase, gross	. . . . .	<u>\$87,322 85</u>

The following shows the variation in the number of pupils and the increase in salaries in the different grades for the past year, compared with those for 1893-94 :

High Schools, pupils increased 296, salaries increased	. . . . .	\$22,248 72
Grammar Schools, pupils increased 1,014, salaries increased,	15,747 85	
Primary Schools, pupils increased 830, salaries increased,	10,890 83	
Horace Mann School, pupils increased 5, salaries increased,	436 87	
Kindergartens, pupils increased 303, salaries increased	. . . . .	6,248 11
Evening Schools, pupils decreased 297, salaries increased	. . . . .	1,129 50
Evening Drawing Schools, pupils decreased 46, salaries in-	creased	623 00
Manual Training Schools, salaries increased	. . . . .	2,468 92
Special teachers, salaries increased	. . . . .	1,785 32
Spectacle Island, pupils increased 3.		
		<hr/>
Total increase in pupils, 2,108; in salaries	. . . . .	<u>\$61,579 12</u>

The number of regular instructors on the pay-rolls, Jan. 1, 1895, was 1,484, divided among the several grades of schools as follows: High Schools, 136; Grammar Schools, 715; Primary Schools, 500; Horace Mann School, 13; Kindergartens, 95; Manual Training, including Cookery, 25; — an increase of 48 regular instructors since Jan. 1, 1894.

In addition, there have been 141 temporary teachers and 62 special assistants employed in the day schools, an average of 201 instructors in the Evening and Evening Drawing

Schools, and 60 special instructors, including 33 teachers of sewing, making a total of 1,948 instructors on the pay-rolls during the year.

During the year \$64,130.07 were paid for instruction by special teachers, as follows :

Sewing, 33 teachers, 281 divisions	\$20,075 56
Music, 9 instructors	16,608 00
Drawing: director	3,000 00
assistant	1,800 00
Modern languages: director	3,000 00
three assistants	3,456 67
Physical training: director	3,000 00
assistant	2,000 00
Military drill: 1 instructor and armorer	2,383 33
Kindergarten methods, 2 instructors	3,828 51
Calisthenics and elocution, 2 instructors	1,750 00
Chemistry: 1 instructor	1,620 00
assistant, Girls' High School	804 00
assistant, Roxbury High School	804 00
Total for special instructors	<u>\$64,130 07</u>

The amount paid for salaries of instructors the past year was \$1,531,630.15, an increase over that for the year preceding of \$61,579.12. This is the largest increase in any one year since the reorganization of the Board in 1876.

Ten years ago the cost for this item was \$1,170,751.71 at the rate of \$19.61 per pupil, as compared with \$20.81 per pupil for the past year, an increase of \$1.20, although the schedule of salaries or the number of pupils to a teacher has not materially changed.

As stated in the last annual report of this committee the effect of Section 117 of the Rules of the School Board allowing certain credits for previous service is responsible for part of the increase in salaries of instructors the past two years.

The number of teachers nominated on probation during the year was 190, of which 110 were placed on advanced salary, and the difference between the compensation for their-

first year of service and what it would have been had they been nominated on the minimum salary amounted to \$17,592.

During the year the School Board granted leave of absence in 134 cases to instructors; and of this number 16 were allowed an absence for one year on half pay, in accordance with Section 95 of the Rules permitting that privilege after every ninth year of service in the public schools of the city. In these cases the substitutes approved by the Board received payment on the regular pay-roll of the school; but on account of the small compensation — one-half the regular salary — changes are not infrequent. In cases where the regular teachers pay the substitutes there seems to be a lack of uniformity in different schools. Sometimes no substitutes are employed for a short period of absence and the absent teachers receive their full salary; while in other similar cases the principals are more particular, and strive to secure substitutes under all circumstances.

The Evening Schools, comprising one Evening High with two branches, sixteen Evening Elementary Schools, and five Evening Drawing Schools, held their sessions as usual during the year. The average number of pupils belonging was 5,896.

The amount paid for salaries of instructors in these schools was \$57,116, an increase over that of the year preceding of \$1,752.50.

The number of Kindergartens has increased during the year from forty-seven to fifty-four. Jan. 1, 1895, there were employed fifty-three principals, forty-two assistants, three temporary teachers, and one special assistant. The salaries paid amounted to \$53,057, an increase of \$6,248.11 over the cost for 1893-94.

The amount paid for salaries of officers the past year was \$58,970, a reduction from the amount estimated of \$2,290. This was occasioned by vacancies in the truant officers' force and in the Board of Supervisors during part of the year.

The number of janitors employed the past year to take charge of the school buildings was one hundred and sixty-one, including two engineers. The total amount paid for salaries was \$118,336.49, an increase of \$3,823.64 over that for the year preceding. The number of buildings occupied wholly or in part for school purposes was one hundred and ninety-eight.

One janitor had charge of four buildings, four janitors had charge of three buildings each, thirty-one janitors had charge of two buildings each, and one hundred and sixteen janitors had charge of one building each. In addition, three buildings required the services of two janitors for each, and in one building there were three janitors employed.

The average cost for taking care of the nine buildings occupied for High Schools the past year was	\$1,681 17
The average cost for each of the fifty-five buildings occupied for Grammar Schools was	935 53
The average cost for each of the one hundred and twenty-one buildings occupied for Primary Schools was	360 16
The average cost for each Evening School was	126 05
The average salary paid to each janitor in the service was	735 01

This committee in making up the estimates for 1895-96 included \$5,000 in addition to the amount required for the regular salaries of janitors, to be used for special cleaning. It was believed that if each principal were allowed to expend about \$100 per annum in his district for work not ordinarily done by the janitors it would prove a benefit to the health and comfort of both pupils and teachers.

The experiment was tried in a small way during the past year with entire success, an appropriation of \$150 proving of great benefit for the extra cleaning needed in three large school buildings.

It was hoped that the work could be extended generally over the city during the present year, more especially that the floors and sanitariums might be kept in a clean and healthful condition, thus removing all cause for just criticism.

The reduction in the appropriation, however, will seriously interfere with the ability of this committee in carrying out the plan as originally desired.

The Committee on Supplies approved and presented to this committee, in monthly instalments throughout the year, bills to the amount of \$175,743.98. Deducting the income received on this account, \$1,917.05, it leaves \$173,826.93 as the net expenditure incurred under the direction of that committee, an increase of \$1,828.20 over that of 1893-94.

The full details of these expenditures are given in the report of the Committee on Supplies, lately issued.

During the year bills properly certified by the Superintendent of Public Buildings, and approved by the Committee on School Houses, were received to the amount of \$214,252.47, which represents the cost of repairs and alterations of school-houses, including the hiring of temporary accommodations. For some years the work of this department has been much curtailed on account of repeated reductions in the appropriation estimated as necessary. The most essential demands have been met, but many desirable improvements, especially in the line of sanitation, have been left undone. Much justifiable criticism has been made during the year concerning certain buildings, and in some of the rapidly-growing suburban districts fault has been found with temporary accommodations furnished.

As the School Committee has no authority to make expenditures for these purposes in excess of the appropriation granted by the City Council, they cannot be held responsible for unsatisfactory results. The citizens have the right to demand a fair appropriation carefully expended when the comfort and health of their children are at stake.

The following table shows the expenditures made for carrying on the schools, exclusive of furniture, repairs, and new school-houses, since the reorganization of the Board, a period of eighteen years and nine months :

YEAR.	Expenditures.	Income.	Net Expenditures.	No. of Pupils.	Rate per Pupil.
1876-77 . .	\$1,525,199 73	\$21,999 03	\$1,503,200 70	50,308	\$29 88
1877-78 . .	1,455,687 74	30,109 31	1,425,578 43	51,759	27 54
1878-79 . .	1,405,647 60	32,145 54	1,373,502 06	53,262	25 79
1879-80 . .	1,416,852 00	49,090 28	1,367,761 72	53,981	25 34
1880-81 . .	1,413,763 96	73,871 08	1,339,892 88	54,712	24 49
1881-82 . .	1,392,970 19	69,344 08	1,323,626 11	55,638	23 79
1882-83 . .	1,413,811 66	73,278 56	1,340,533 10	57,554	23 29
1883-84 . .	1,452,834 38	79,064 66	1,373,789 72	58,788	23 37
1884-85 . .	1,507,394 03	39,048 26	1,468,345 77	59,706	24 59
1885-86 . .	1,485,237 20	31,213 34	1,454,023 86	61,259	23 74
1886-87 . .	1,485,343 29	33,388 28	1,451,955 01	62,259	23 32
1887-88 . .	1,536,552 99	37,992 81	1,499,460 18	62,226	24 10
1888-89 . .	1,596,949 08	39,585 52	1,557,363 56	64,584	24 11
1889-90 . .	1,654,527 21	39,912 30	1,614,614 91	66,003	24 46
1890-91 . .	1,685,360 28	41,209 06	1,644,151 22	67,022	24 53
1891-92 nine months }	1,295,981 34	30,757 31	1,265,224 03	67,696	18 69
1892-93 . .	1,768,985 64	37,578 66	1,731,406 98	68,970	25 10
1893-94 . .	1,822,052 26	40,709 13	1,781,343 13	71,495	24 92
1894-95 . .	1,885,537 38	38,604 35	1,846,933 03	73,603	25 09

From the above table it will be seen that the running expenses, exclusive of repairs, were seventeen cents more per pupil than for the previous year.

In the following table the total net expenditure incurred by the School Committee, exclusive of repairs, is divided into five items :

1. Salaries of instructors.
2. Salaries of officers.
3. Salaries of janitors.
4. Fuel, gas, and water.
5. Supplies and incidentals.

The net amount expended for each of these items during the past eighteen years and nine months is herewith shown :

	Salaries Instructors.	Salaries Officers.	Salaries Janitors.	Fuel, Gas, and Water.	Supplies and Incidentals.
1876-77 .	\$1,190,575 10	\$56,807 56	\$77,654 63	\$55,490 16	\$122,673 25
1877-78 .	1,128,430 40	58,035 94	75,109 93	53,321 70	110,680 46
1878-79 .	1,085,288 32	55,462 18	73,728 94	47,678 94	111,343 68
1879-80 .	1,085,324 34	53,679 74	74,594 40	40,920 22	113,243 02
1880-81 .	1,087,172 23	52,470 00	77,204 10	57,483 62	65,562 93
1881-82 .	1,085,459 28	55,993 83	79,791 50	57,593 17	44,788 33
1882-83 .	1,094,491 01	57,038 83	81,281 84	60,863 11	46,858 31
1883-84 .	1,118,751 87	58,820 00	83,182 71	66,068 59	46,966 55
1884-85 .	1,143,893 48	60,920 00	84,982 91	61,325 41	118,123 97
1885-86 .	1,162,566 65	58,910 00	86,601 38	58,417 53	87,528 30
1886-87 .	1,182,092 18	55,739 67	89,802 95	57,216 67	67,103 54
1887-88 .	1,202,685 55	57,608 00	98,947 00	71,048 76	69,170 87
1888-89 .	1,247,482 78	58,157 00	99,248 74	75,067 07	77,407 97
1889-90 .	1,295,177 76	58,295 00	101,399 05	73,580 27	86,162 83
1890-91 .	1,325,984 68	60,112 33	103,420 72	69,524 54	85,108 95
1891-92 } nine months }	1,005,050 71	45,638 33	78,652 64	56,665 22	79,217 13
1892-93 .	1,391,121 05	60,566 83	110,669 83	77,872 75	91,176 52
1893-94 .	1,432,808 21	62,923 34	114,512 85	86,666 99	85,331 74
1894-95 .	1,495,799 61	58,970 00	118,336 49	77,291 91	96,535 02
Total . . .	\$22,760,155 21	\$1,084,348 58	\$1,709,122 61	\$1,204,096 63	\$1,604,983 37
Average .	\$1,197,902 91	\$57,070 98	\$89,953 82	\$63,373 51	\$84,472 81

The average annual increase in pupils during the time covered by the above table was about one thousand three hundred, which should enter into the account in comparing expenses.

The following table shows the cost of repairs made and furniture provided since 1876-77 :

YEAR.	Expenditures.	Income.	Net Expenditures.	No. of Pupils.	Rate per Pupil.
1876-77 . .	\$165,876 72	. . . . .	\$165,876 72	50,308	\$3 30
1877-78 . .	126,428 35	. . . . .	126,428 35	51,759	2 45
1878-79 . .	114,015 32	. . . . .	114,015 32	53,262	2 14
1879-80 . .	98,514 84	. . . . .	98,514 84	53,981	1 82
1880-81 . .	145,913 55	\$205 00	145,708 55	54,712	2 66
1881-82 . .	178,008 88	247 50	177,761 38	55,638	3 19
1882-83 . .	189,350 83	231 00	189,119 83	57,554	3 29
1883-84 . .	186,852 18	300 00	186,552 18	58,788	3 17
1884-85 . .	198,059 11	526 50	197,532 61	59,706	3 31
1885-86 . .	188,435 63	137 50	188,298 13	61,259	3 07
1886-87 . .	171,032 71	295 92	170,733 79	62,259	2 74
1887-88 . .	243,107 89	221 00	242,886 89	62,226	3 90
1888-89 . .	251,736 17	153 00	251,583 17	64,584	3 90
1889-90 . .	262,208 75	850 20	261,358 55	66,003	3 96
1890-91 . .	263,860 16	208 00	263,652 16	67,022	3 94
1891-92 nine months	205,344 27	595 50	204,748 77	67,696	3 02
1892-93 . .	221,905 53	165 00	221,740 53	68,970	3 22
1893-94 . .	190,465 06	. . . . .	190,465 06	71,495	2 66
1894-95 . .	214,252 47	25 00	214,227 47	73,603	2 91

The appropriation made and expenditures incurred for repairs, etc., of school-houses have been reduced nearly \$50,000 annually for the past four years as compared with the four years preceding, although the number of buildings and their requirements have largely increased.

The foregoing tables include all the running expenses of the schools and form the basis for computing the rate per pupil. The total running expenses compared with those for 1893-94 show an increase in the rate of forty-two cents per pupil.

Later in this report the expenses of each grade of schools are given, but include only such as are directly chargeable to the different grades. In addition, certain expenditures, which might be termed general expenses, such as cost of supervision, salaries of officers and directors of special studies, printing, the annual festival, and similar expenditures, amounting to \$126,234.27, or about six per cent. of the running expenses, are incurred for the schools as a whole.

In like manner a certain part of the income collected, amounting to \$19,204.88, is received for the schools in general, and not for any particular grade.

The following shows the total net cost for carrying on each grade of schools, by charging and crediting each with its share *pro rata* of the general expenses and income.

NORMAL, LATIN, AND HIGH SCHOOLS.

Salaries of instructors	\$263,420 53
Salaries of janitors	15,130 50
Books, drawing materials, and stationery	10,502 38
Other supplies and miscellaneous items	2,813 86
Fuel, gas, and water	11,264 78
Furniture, repairs, etc.	26,274 62
Proportion of general expenses	21,069 84
	<hr/>
Total cost	\$350,476 51
Income from sale of books	\$63 27
Proportion of general income	3,205 50
	<hr/>
	3,268 77
	<hr/>
Net cost	<u>\$347,207 74</u>
Average number of pupils, 4,188; cost per pupil, \$82.91.	
Cost of educating 4,188 pupils	\$347,207 74
Tuition paid by 85 non-resident pupils	6,765 66
	<hr/>
Net cost of educating 4,103 resident pupils	<u>\$340,442 08</u>
Average cost of each resident pupil, \$82.97.	

GRAMMAR SCHOOLS.

Salaries of instructors	\$739,047 29
Salaries of janitors	53,650 03
Books, drawing materials, and stationery	34,331 66
Other supplies and miscellaneous items	4,780 39
Fuel, gas, and water	34,621 73
Furniture, repairs, etc.	92,728 04
Proportion of general expenses	61,350 71
Total cost	<u>\$1,020,509 85</u>
Income from sale of books	\$76 14
Income from non-resident tuition	391 70
Proportion of general income	9,333 70
	<u>9,801 54</u>
Net cost	<u>\$1,010,708 31</u>

Average number of pupils, 33,714; average cost per pupil, \$29.98.

PRIMARY SCHOOLS.

Salaries of instructors	\$359,577 17
Salaries of janitors	43,579 57
Books, drawing materials, and stationery	5,556 18
Other supplies and miscellaneous items	3,452 18
Fuel, gas, and water	24,353 18
Furniture, repairs, etc.	68,354 68
Proportion of general expenses	32,293 20
Total cost	<u>\$537,166 16</u>
Income from sale of books	\$47 53
Income from non-resident tuition	10 28
Proportion of general income	4,912 98
	<u>4,970 79</u>
Net cost	<u>\$532,195 37</u>

Average number of pupils, 26,971; cost per pupil, \$19.73.

EVENING HIGH AND ELEMENTARY SCHOOLS.

Salaries of instructors	\$45,363 00
Salaries of janitors	2,373 94
Books, drawing materials, and stationery	1,908 88
Other supplies and miscellaneous items	103 98
Fuel, gas, and water	2,853 15
Furniture, repairs, etc.	889 76
Proportion of general expenses	3,421 56
Total cost	<u>\$56,914 27</u>
<i>Carried forward,</i>	<u>\$56,914 27</u>

<i>Brought forward.</i>		\$56,914 27
Income from sale of books	\$17 33	
Income from non-resident tuition	124 02	
Proportion of general income	520 55	
		<u>661 90</u>
Net cost		<u>\$56,252 37</u>

Average number of pupils, 5,310; average cost per pupil, \$10.59.

EVENING DRAWING SCHOOLS.

Salaries of instructors		\$11,753 00
Salaries of janitors		399 18
Drawing materials and stationery		536 18
Other supplies and miscellaneous items		10 64
Fuel, gas, and water		628 19
Furniture, repairs, etc.		1,204 75
Proportion of general expenses		929 51
Total cost		<u>\$15,461 45</u>
Income from non-resident tuition	\$30 99	
Proportion of general income	141 41	
		<u>172 40</u>
Net cost		<u>\$15,289 05</u>

Average number of pupils, 586; average cost per pupil, \$26.09.

HORACE MANN SCHOOL.

Salaries of instructors		\$12,467 01
Salaries of janitors		977 00
Books, drawing materials, and stationery		99 65
Other supplies, car-fares, and miscellaneous items		2,452 96
Fuel, gas, and water		683 40
Furniture, repairs, etc.		1,404 30
Proportion of general expenses		1,156 73
Total cost		<u>\$19,241 05</u>
Proportion of general income		175 98
		<u>\$19,065 07</u>

Average number of pupils, 101; cost per pupil, \$188.76.

Total cost of educating 101 pupils	\$19,065 07
Received from the State, etc., for tuition and travelling expenses of pupils	11,897 55
Net cost of educating 101 pupils	<u>\$7,167 52</u>

Net average cost of each pupil, \$70.97.

KINDERGARTENS.

Salaries of instructors	\$53,057 00
Salaries of janitors	1,686 27
Books, drawing materials, and stationery	164 79
Kindergarten supplies	1,375 97
Pianos and stools	458 00
Services of maids	1,205 30
Other supplies and miscellaneous items	155 58
Fuel, gas, and water	942 91
Furniture, repairs, etc.	6,351 39
Proportion of general expenses	4,183 00
	<hr/>
Total cost	\$69,580 21
Proportion of general income	636 39
	<hr/>
Net cost	<u>\$68,943 82</u>

Average number of pupils, 2,714; average cost per pupil, \$25.40.

MANUAL TRAINING SCHOOLS.

Salaries of instructors	\$18,153 82
Salaries of janitors	540 00
Books, drawing materials, and stationery	53 51
Lumber and hardware	2,195 38
Crockery, groceries, and kitchen materials	1,115 92
Other supplies, models, and miscellaneous items	718 46
Fuel, gas, and water	1,403 34
Furniture, repairs, etc.	4,425 47
Proportion of general expenses	1,829 72
	<hr/>
Total cost	\$30,435 62
Proportion of general income	278 37
	<hr/>
Net cost	<u>\$30,157 25</u>

The pupils attending the Manual Training Schools are included in the number belonging to the other grades of schools. The amount expended under this head is for special instruction a few hours each week to a large number of pupils, and is additional to the cost incurred in the regular grade to which they belong.

The city has expended during the past thirty years the sum of \$8,217,018.15 for new school-houses, a yearly average of \$273,900.60 for the time. As some of the buildings included in this amount have been sold and others diverted from their original purpose, it would be unfair to charge to the cost for instruction the amount given, as the cost of new school-houses, in the table on page 26 of this report.

If the thirty years were divided into periods of ten years each, it appears that the average cost for the first period is \$3,248,911.89 for the second period \$1,933,820.81, and for the third period \$3,034,285.45. Notwithstanding the fact that \$1,100,000 more have been expended the past ten years than during the preceding ten years, it is probably true that more criticism has been made regarding lack of accommodations the past few years than for many years previous.

This is somewhat due to the introduction into our system of instruction of Kindergartens, Manual Training, and Schools of Cookery, all of which have been added within the past ten years, and are now occupying seventy-nine rooms, equal to the accommodations afforded by five large grammar, or double that number of primary school buildings.

Since 1888, when the Kindergartens were first adopted, a great many vacant rooms have been appropriated for either the Kindergartens, Manual Training, or Cooking classes; and doubtless it has occurred that subsequently grammar and primary pupils have been deprived of the accommodation they otherwise might have had. The Cooking and Manual Training classes furnish accommodations to pupils also supplied with regular class-rooms in grammar buildings.

The school-houses built within the past ten years have cost about \$200 for each grammar and primary pupil accommodated, while the last high school erected cost over \$500 for each pupil. If the city were required to provide

accommodations at the present time for the 70,000 children attending school, and at the rates now being paid, it would demand an expenditure of over \$16,000,000, a sum probably twice the original cost of the buildings now occupied, indicating that the cost for school accommodations has increased nearly double the past ten years as compared with the average cost up to that time.

The Rules of the Board require this committee to make out bills for tuition of non-resident pupils, and send them to the City Hall for collection.

The amount collected from this source the past year was as follows :

85 Normal, Latin, and High School pupils paid	\$6,765 66
21 Grammar School pupils paid	391 70
1 Primary School pupil paid	10 28
15 Evening School pupils paid	124 02
2 Evening Drawing School pupils paid	30 99
	<hr/>
A total of 124 pupils, who paid	<u>\$7,322 65</u>

The committee are obliged to rely upon the principals for information regarding pupils whose parents or guardians are not legal residents of Boston, and suitable blanks are furnished them for the purpose in September and in February. Doubtful cases are referred to the committee for their decision as to whether payment for tuition should or should not be required.

Persons residing out of town, who pay taxes to the city either in their business or upon real estate, sometimes feel that they are entitled to the privileges of Boston schools, not realizing that the State law requires each city and town to provide instruction only for its own residents.

While the committee sometimes remit the tuition in special cases, they endeavor at the same time to comply

with the law requiring payment, especially where parents are abundantly able to meet the expense and can furnish no reason for exemption.

In addition to the amount above mentioned, \$10,184.77 were received from the State for tuition of pupils in the Horace Mann School. The State pays per annum \$100 for each Boston pupil, and \$105 for each out-of-town pupil.

The total income received on account of tuition was \$17,507.42.

The income received from the Gibson Fund during the year amounted to \$1,734. Of this sum \$856.76 were expended for the benefit of the Dorchester schools. The income to the credit of the fund Jan. 31, 1895, was \$2,564.15.

This fund was the bequest of Christopher Gibson, who provided by will, about 1674, that his executors should "purchase some estate for the promotion of learning in the town of Dorchester." In accordance, twenty-six acres of land at Smelt brook were purchased for £104, and deeded, Feb. 6, 1693, to Enoch Wiswell *et al.*, as trustees and to their successors and assigns, for the "use and purpose, benefit and behoof, of the schools of learning in the town of Dorchester." Sales of this land have been made from time to time, the part now remaining consisting of 537,700 square feet.

The proceeds have been invested in city of Boston bonds, valued at about \$19,000.

The unoccupied land is used principally for city purposes, the rents being fixed by the Street Commissioners, as follows:

Street Department, Paving Division	\$200 00
Water Board	125 00
Sewer Department	150 00
West End Street Railway Company	300 00
C. V. Whitten for pasture	25 00
Jos. P. Emond " "	76 00
Making a total yearly rental of	<u>\$876 00</u>

In addition a portion of the land is allowed to be used as a play-ground, for which no rent is received.

During the past year the much-discussed garbage plant has been erected on a part of the land which, in the opinion of this committee, will not add to the value of the property.

The total expenditure for the public schools, including new school-houses, for the past year was as follows :

School Committee	\$1,884,680 62
School Committee, Gibson Fund	856 76
School Committee, repairs, etc.	214,252 47
Public Buildings and City Architect Departments, New School-houses (special)	397,983 62
	<hr/>
Total gross expenditure	\$2,497,773 47
Income for the year was as follows :	
School Committee ;.	\$38,604 35
Sale of old school building	25 00
	<hr/>
	38,629 35
	<hr/>
Total net expenditure	<u>\$2,459,144 12</u>

Your committee have added to this report the estimates for the financial year 1895-96, as prepared, approved, and presented to His Honor the Mayor, under date of Dec. 11, 1894. The amount requested for ordinary expenses, was as follows :

Salaries of instructors	\$1,593,165 00
Salaries of officers	64,400 00
Salaries of janitors	127,000 00
Fuel, gas, and water	83,475 00
Supplies and incidentals	119,960 00
School-houses, repairs, etc.	230,000 00
	<hr/>
Total ordinary expenses	<u>\$2,218,000 00</u>

In addition there were required for extraordinary repairs, relating to ventilation and other sanitary improvements of school-houses, the sum of \$184,100, making the total amount estimated for the year 1895-96 \$2,402,100.

This committee used the utmost care in making up the estimates and believed that the amount requested should be allowed, if Boston is to keep pace with other cities in the line of educational progress.

The City Council have voted to grant the School Committee the sum of \$1,920,000, a reduction of \$68,000. In addition they have allowed under the head of Public Buildings, Schools, the sum of \$210,000, a reduction of \$20,000, while nothing has been granted for ventilation, sanitary improvements, or fire-escapes repeatedly requested.

By strictly curtailing expenses during the year, something may be saved from the estimates; but it would be impossible to keep within the appropriation granted without adopting stringent measures which the committee believe would not be for the best interests of the schools. It is probable, therefore, that the end of the year will bring a deficit for which provision must be made at the time.

In closing, the committee would call the attention of the Board to the following pages of this report, which give in detail the expenditures during the year.

Respectfully submitted,

EDWARD H. DUNN,

Chairman.

BENJAMIN B. WHITTEMORE,

WILLARD S. ALLEN,

J. P. C. WINSHIP,

WILLIAM J. GALLIVAN,

Committee on Accounts.

SCHOOL EXPENSES.

ANNUAL EXPENDITURES for the Public Schools of Boston for the last thirty financial years; also the average number of scholars. Annexations occurred as follows: Roxbury, Jan. 6, 1868; Dorchester, Jan. 3, 1870; Charlestown, Brighton, and West Roxbury, Jan. 5, 1874.

FINANCIAL YEAR.	No. of Day Scholars Belonging	No. of Evening Scholars Belonging	Total No. of Scholars Belonging	Salaries of Teachers and Officers, School Committee.	Incidental Expenses.	Total for Running Expenses.	Ordinary Revenue.	Net Running Expenses.	Net Rate per Scholar.	Cost of new School-houses.	Total Expenditures.
1865-66	27,204	..	27,204	\$412,550 82	\$163,270 76	\$575,821 58	\$8,574 22	\$67,247 36	\$20 85	\$200,553 64	\$776,375 22
1866-67	28,002	..	28,002	503,566 66	176,108 85	679,705 51	5,858 93	673,846 58	24 06	101,575 09	781,280 60
1867-68	27,982	..	27,982	561,168 98	177,439 43	738,608 41	10,467 95	728,140 46	25 89	185,790 80	913,931 21
1868-69	33,994	..	33,994	738,198 37	244,476 65	982,674 00	8,876 68	973,800 32	28 64	346,610 78	1,320,411 10
1869-70	35,442	..	35,442	739,343 65	248,066 95	987,410 60	14,661 16	972,751 44	27 45	612,337 86	1,590,088 46
1870-71	36,758	..	36,758	838,369 77	293,232 59	1,131,599 36	23,808 55	1,107,790 81	30 11	443,679 71	1,551,470 52
1871-72	36,650	5,128	41,778	886,940 47	329,639 18	1,216,579 65	29,899 98	1,186,679 67	28 47	97,800 68	1,314,380 33
1872-73	39,824	2,121	41,945	933,670 06	358,970 85	1,292,641 91	28,113 93	1,264,527 98	33 50	454,230 34	1,746,763 25
1873-74	41,344	1,714	43,058	1,041,375 32	377,681 52	1,419,057 04	28,848 73	1,390,208 31	32 14	446,663 25	1,865,870 29
1874-75	44,942	1,522	46,464	1,249,498 93	474,874 68	1,724,373 61	26,229 82	1,698,142 79	36 54	336,669 74	2,081,943 35
1875-76	45,924	3,393	49,317	1,268,803 59	470,830 68	1,739,634 27	29,635 72	1,710,008 55	34 82	277,446 57	2,015,380 84
1876-77	46,581	3,727	50,308	1,268,004 23	422,472 22	1,690,476 45	21,999 03	1,668,477 42	33 18	125,539 04	1,816,015 49
1877-78	47,075	4,084	51,159	1,215,782 03	366,234 06	1,582,016 09	30,109 31	1,551,906 78	29 90	174,324 75	1,756,140 84
1878-79	49,700	3,562	53,262	1,172,489 69	317,173 23	1,519,662 92	32,145 54	1,487,517 38	27 93	240,222 98	1,759,885 30
1879-80	50,531	3,130	53,661	1,162,258 61	353,108 23	1,515,366 84	49,090 28	1,466,276 56	27 16	136,878 45	1,652,245 29
1880-81	51,342	3,170	54,512	1,169,462 69	394,274 82	1,569,677 51	74,076 08	1,485,601 43	27 15	213,359 64	1,775,037 15
1881-82	52,611	3,027	55,638	1,165,629 71	405,349 36	1,570,979 07	69,591 58	1,501,387 49	26 98	139,126 88	1,670,105 95
1882-83	54,590	2,964	57,554	1,180,193 73	422,268 76	1,603,162 49	75,309 66	1,527,852 83	26 58	77,628 73	1,680,791 22
1883-84	55,610	3,148	58,758	1,208,683 23	433,023 33	1,639,706 56	70,364 66	1,569,341 90	26 54	268,879 72	1,908,586 28
1884-85	56,888	3,818	60,706	1,230,771 71	474,681 43	1,705,453 14	39,574 76	1,665,878 38	27 90	278,114 05	1,983,667 19
1885-86	57,180	4,079	61,259	1,251,403 29	422,939 54	1,674,342 83	31,350 84	1,643,021 90	26 81	362,708 15	2,036,050 98
1886-87	58,296	3,993	62,289	1,269,543 91	386,820 06	1,656,376 00	33,084 20	1,623,291 80	26 06	125,687 45	1,782,003 46
1887-88	58,310	3,916	62,226	1,269,192 42	483,468 46	1,752,660 88	37,213 81	1,715,447 07	28 00	127,875 90	1,907,526 78
1888-89	60,224	4,360	64,584	1,332,306 25	516,179 08	1,848,485 33	39,738 62	1,808,746 73	28 01	121,328 95	1,970,074 20
1889-90	60,478	5,225	65,703	1,390,868 87	525,867 09	1,916,735 96	40,762 50	1,875,973 46	28 42	349,602 82	2,266,338 78
1890-91	61,019	6,063	67,082	1,424,988 20	524,232 24	1,949,220 44	41,417 06	1,907,803 38	28 47	172,523 90	2,121,744 34
For the nine months end-											
ing January											
31, 1892	61,763	5,923	67,686	1,079,848 59	421,477 02	1,501,325 61	31,352 81	1,469,972 80	21 71	527,429 10	2,028,754 71
1892-93	63,347	5,623	68,970	1,485,411 12	505,480 05	1,990,891 17	37,743 66	1,953,147 51	28 32	569,100 75	2,560,991 92
1893-94	65,256	6,239	71,495	1,532,074 31	480,342 95	2,012,417 32	40,769 13	1,971,908 19	27 58	279,356 81	2,291,974 13
1894-95	67,107	5,896	73,003	1,590,600 15	509,139 70	2,099,739 85	38,629 85	2,061,100 50	28 00	397,983 62	2,497,713 47

FIFTEENTH ANNUAL REPORT
OF THE
SUPERINTENDENT OF PUBLIC SCHOOLS
OF THE
CITY OF BOSTON.
MARCH, 1895.

REPORT.

To the School Committee:

The Superintendent of Public Schools respectfully submits his Fifteenth Annual Report.

The principal matters in this report are:

1. A summary of statistics for the past five years, presented in a form to facilitate comparisons.

2. A statistical investigation of the question how many years children take to do the work of the Grammar School course of study, with remarks suggested by the results ; to which is added a brief notice of the same question in relation to the Primary Schools. An argument for the reduction of the number of pupils to a teacher.

3. Remarks upon some points suggested by the Reports on Organization. Larger divisions found in the lower classes.

4. The enrichment of the Grammar School course. A beginning made. Prospects.

5. Are there too many studies, and is there too much pressure?

6. Music. Present needs.

7. Drawing. Inspection of last year's work.

8. An exhibition of drawing and other school work desirable.

9. Wood-working in the Grammar Schools.

10. The Mechanic Arts High School.
11. The Evening High School.
12. The Normal School. Training-teachers and practice schools. Recommendations.
13. The Parental School. The right policy to be adopted in the treatment of truants.
14. A Parental School for Girls.
15. Supplies. Effects of long-continued rigid economy. Present needs.
16. School seats and desks.
17. The Teachers' Benefit Association.
18. Medical Visitors.

The Supplement contains a report from each one of the Supervisors and from each of the other officers who, by the new rules, are required to perform their duties under the direction of the Superintendent.

There were two ways of treating these reports. One way was to read and digest them, and then give their substance in my own words on my own pages. The other way was to print them in full, as I have done. This latter way was chosen as being not only fairer to the writers of the reports, but more satisfactory to the readers who might be particularly interested in the matters reported upon. Taken together, these reports contain a large amount of interesting information about the schools.

My special acknowledgments are here made for the two valuable reports prepared for publication in the Supplement at my invitation, the one by Mr. Parmenter, Head Master of the Mechanic Arts High School, and the other, a very long and interesting one, by Dr. Dunton, Head Master of the Normal School.

STATISTICS.

The principal items to be found in the tables appended to this report are, to facilitate comparisons, given here side by side with the corresponding items from the statistics of former years.

Whole number of pupils belonging to all the day schools on the 31st day of January, each year :

1891.	1892.	1893.	1894.	1895.
60,994	62,009	63,374	65,588	67,487

Belonging to each grade :

Normal School :

176	182	169	191	182
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Latin and High Schools :

3,274	3,444	3,406	3,675	3,944
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Grammar Schools :

31,504	31,294	31,706	32,681	33,502
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Primary Schools :

24,462	25,098	25,770	26,523	26,970
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Kindergartens :

1,778	1,991	2,323	2,518	2,889
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Average number of pupils belonging to all the day schools during the five months ending January 31, each year :

60,919	61,661	63,233	65,144	67,654
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Belonging to each grade :

Normal School :

188	197	175	191	192
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1891.	1892.	1893.	1894.	1895.
Latin and High Schools :				
3,322	3,488	3,487	3,701	3,996
Grammar Schools :				
31,675	31,398	31,899	32,700	33,714
Primary Schools :				
24,035	24,682	25,435	26,141	26,971
Kindergartens :				
1,699	1,896	2,237	2,411	2,781

Average number of pupils belonging to the special schools during the time these schools were in session to January 31, each year :

Horace Mann School for the Deaf :

85	87	97	96	101
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Evening High :

2,132	2,148	1,760	2,041	*2,269
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Evening Elementary :

3,243	3,119	3,220	3,566	3,041
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Evening Drawing :

628	666	643	632	586
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Spectacle Island :

15	15	17	16	19
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The growth this year in the Grammar and High Schools is remarkable, and explains in some measure the difficulty experienced last September in finding rooms enough for the pupils. Of the pupils admitted during the first three months of the current year,

* Reported on the same basis as in former years. See, however, pages 55, 56.

459 were placed in rented rooms. There were already many pupils in rented rooms, so that there were altogether on the 31st of January 2,153 pupils in rented rooms.

TIME REQUIRED FOR THE GRAMMAR SCHOOL COURSE
OF STUDY.

How many years do children take to do the work in the Grammar School course of study? Theoretically, six years; but in point of fact, as is well known, many take more and many take less. How many take more, and how much more; how many take less, and how much less; are questions that deserve attention, and they have been investigated thoroughly this year for the first time. The results will be given here in full detail.

It has been customary to assume that the number of years elapsed between the date of a pupil's admission to the lowest class in a Grammar School and the date of his graduation was to be taken as the number of years spent by him on the Grammar School course of study. But the objection has been urged against this assumption that it takes no account of pupils' absences. It is claimed that probably most of the pupils who by the record appear to have spent seven, eight, or more years in the Grammar Schools have virtually, by reason of long periods of absence, spent no more than six years, or even less than six years, in doing the work of the course. There is some ground for this claim, but not so much as those who urge it seem disposed to think. Precisely what the truth is will appear presently.

In June, 1894, there were reported to the Com-

mittee on Examinations, on the so-called 'Z blanks, the names, ages, attendance records, and admission dates of 2,675 pupils who had finished the Grammar School course, and were candidates for the Grammar School diploma at that time. These records contained for each pupil a statement of the date of his first admission to a Grammar School, and a statement of the number of weeks he actually attended school between that date and the date of his graduation. Of the 2,675 records thus available for investigation, 21 have been set aside as incomplete, or otherwise useless for the present purpose, leaving 2,654 cases to be considered.

Inquiring, first, concerning the dates of admission, we find them scattered all along from September, 1884, to April, 1894. The earliest to appear on the stage was a girl in the Chapman School, who joined the sixth class in that school ten years before her graduation. Her actual attendance amounted to 338 weeks, or to very nearly $8\frac{1}{2}$ years. But her case was not the extreme one. There were five pupils in different schools who, although admitted at later dates, attended school more weeks than she did.

In September, 1885, nine years before graduation, 21 more were admitted; a year later 136 more; and a year later still 526 more. Meanwhile in February of each year, additional numbers had been admitted; so that there were already in school, February, 1888, six and one-half years before graduation, 817 pupils who were to reach the end of the Grammar School course in June, 1894. All but eleven of these had joined the sixth class at the time of their admission. In September, 1886, six years before graduation,

came the largest accession that the class received in the whole course of its history, 1,047 pupils having been admitted at that time, mostly to the sixth class. From this time forth, the class continued to receive accessions every half year. These accessions numbered altogether 790 pupils; more than a half of whom entered the sixth class, and so must necessarily have finished the Grammar School course in less than six years. After September, 1889, five years before graduation, when 234 pupils were admitted to the sixth class, the numbers admitted at this grade ceased to be important; but the numbers admitted to the higher grades continue to be considerable down to September, 1893, one year before graduation, when 39 pupils were received into the first class. The latest accession of all was in April, 1894, when one pupil was admitted to the first class in the Prince School.

In what has just been said, the admissions of pupils to the Grammar Schools are spoken of as having taken place in September or in February. This is not only a brief way of stating the matter, but it is also in very close accordance with the truth. Of the 2,654 pupils whose history we are now considering, 78 per cent were actually admitted to the Grammar Schools in September; $3\frac{1}{2}$ per cent in October; 12 per cent in February; and the remaining $6\frac{1}{2}$ per cent were admitted at times scattered through the other seven months of the school year. It is, therefore, departing only slightly from the truth to count with the many pupils actually admitted in September the few others admitted in October and the three following months, and to speak of them all as having been ad-

mitted in September; and, in the same way, to speak of those admitted in February and the four months following as having all been admitted in February. This is what has been done in making the following table, which presents in clear form the facts thus far outlined:

TABLE SHOWING APPARENT TIME TAKEN TO DO THE WORK OF THE GRAMMAR SCHOOL COURSE OF STUDY, BASED ON DATES OF ADMISSION. CLASS GRADUATED JUNE, 1894.

Dates of admission.	Years before graduation.	ENTERED CLASS.						Total pupils.
		VI.	V.	IV.	III.	II.	I.	
1884, September.....	10	1	.....	.....	.....	.....	.....	1
1885, September.....	9	20	1	.....	.....	.....	.....	21
1886, February.....	8½	8	.....	.....	.....	.....	.....	8
September.....	8	136	.....	.....	.....	.....	.....	136
1887, February.....	7½	30	.....	1	.....	.....	.....	31
September.....	7	519	5	2	.....	.....	.....	526
1888, February.....	6½	92	2	.....	.....	.....	.....	94
September.....	6	1006	35	4	1	1	.....	1,047
1889, February.....	5½	163	12	2	.....	.....	.....	177
September.....	5	234	42	13	.....	.....	.....	289
1890, February.....	4½	21	8	6	.....	.....	1	36
September.....	4	20	9	33	8	.....	.....	70
1891, February.....	3½	2	.....	7	6	.....	.....	15
September.....	3	3	4	19	41	5	.....	72
1892, February.....	2½	.....	.....	3	9	3	.....	15
September.....	2	.....	.....	.....	14	48	2	64
1893, February.....	1½	.....	.....	.....	.....	10	.....	10
September.....	1	.....	.....	.....	.....	2	40	4
Totals.....	.....	2,255	118	90	79	69	43	2,654

From this table we learn that by far the largest number admitted to any class at any one time is the number 1,006, who were admitted to the sixth class six years before their graduation. If to this number

be added the number of those who were admitted to the fifth class five years, to the fourth class four years, to the third class three years, to the second class two years, and to the first class one year before their graduation, the total, 1,210, will be the whole number of those who may be described as having reached the end of the Grammar School course on schedule time.

Then there are those who were delayed half a year, one year, two years, or even more. The total number of these is 916, as follows:

	PUPILS.
Delayed $\frac{1}{2}$ year	119
1 "	582
$1\frac{1}{2}$ years	34
2 "	145
$2\frac{1}{2}$ "	8
3 "	23
$3\frac{1}{2}$ "	2
4 "	3
	<hr/> 916

Then there are those who went along faster, so as to have gained half a year, one year, two or even three years. The total number of these is 528, as follows:

	PUPILS.
Gained $\frac{1}{2}$ year	197
1 "	278
$1\frac{1}{2}$ years	24
2 "	24
$2\frac{1}{2}$ "	2
3 "	3
	<hr/> 528

The summary statement is this:

	PUPILS.
Passed through the Grammar School	
course in the regular time	1,210 = 45½%
Were delayed (from ½ to 4 years)	916 = 34½%
Gained (from ½ to 3 years)	528 = 20%
	—
Total	2,654

These results when compared with the results of a similar inquiry made three years ago (see Superintendent's Report for 1892, School Document No. 12, 1892) show a distinct improvement — the beginning of a tendency in the right direction. Then it appeared that 46 per cent of the pupils came through the course in the regular time, 40 per cent took more than the regular time, and 14 per cent took less. The differences between these per cents are not great; but they afford some ground for hoping that by holding attention to this matter, still better results may be obtained in a few years.

Now comes the objection that these numbers ought not to be taken as an accurate indication of the length of time actually required to finish the Grammar School course of study, because no allowances have been made for periods of absence, in some cases long periods of absence, which go far to account for the delay in reaching the end. It has been admitted that this objection has force: how much force, is the matter now to be considered.

The actual number of weeks each of the 2,654 pupils had attended a Grammar School before gradu-

ation was recorded upon the papers returned to the Committee on Examinations, so that it is easy to correct each number in the above table (p. 12) by subtracting from it the number of pupils who actually attended school less than the full time assigned. The numbers so subtracted will be added to the numbers recorded below in the same column, according to the length of actual attendance in each case. For instance, take the largest number in the table, 1,006 pupils registered as having entered the sixth class six years before graduation. Only 776 of them actually attended school six years. The rest attended $5\frac{1}{2}$, 5, $4\frac{1}{2}$, 4, $3\frac{1}{2}$, or 3 years. So 776 remain registered in the place of 1,006, and the rest are added to those registered below in the same column. But the 776 will be increased by numbers coming from above, when the same analysis is applied to the numbers above in the same column. Thus, when the number 519 is analyzed, only 300 are found to have attended the full seven years, while 219 pass down the column, 58 of them being added to the 776 in the six-year line. By applying this analysis to every number in the table, and entering the results in a new table of the same form, we have a distribution of the whole 2,654 pupils on the basis of actual attendance. (See p. 16.) The dates of admission no longer appear; and the column headed "Years before graduation" now becomes "Total actual attendance in years." In other respects the tables are alike.

TABLE SHOWING ACTUAL TIME TAKEN TO DO THE WORK OF THE GRAMMAR SCHOOL COURSE OF STUDY, BASED ON ACTUAL ATTENDANCE COUNTED BY WEEKS AND REDUCED TO YEARS. CLASS GRADUATED JUNE, 1894.

Total actual attendance in years.	BEGINNING IN CLASS.						Total pupils.
	VI.	V.	IV.	III.	II.	I.	
9	5	.....	.....	.....	.....	.....	5
8½	9	1	.....	.....	.....	.....	10
8	61	.....	.....	.....	.....	.....	61
7½	49	.....	.....	.....	.....	.....	49
7	333	.....	.....	.....	.....	.....	333
6½	182	3	2	.....	.....	.....	187
6	867	21	2	.....	.....	.....	890
5½	342	15	3	1	1	.....	362
5	286	38	8	.....	.....	.....	332
4½	61	16	3	.....	.....	.....	80
4	33	12	33	7	.....	.....	85
3½	11	5	8	1	.....	1	26
3	16	6	23	41	3	.....	89
2½	.....	.....	6	10	1	.....	17
2	.....	1	2	17	48	2	70
1½	.....	.....	.....	1	13	.....	14
1	.....	.....	.....	1	3	40	44
Totals	2,255	118	90	79	69	43	2,654

From this table may be gathered results which, when compared with corresponding results gathered in the same way from the former table (p. 12), show how much allowance is to be made for periods of absence. The largest number in this table, 867, is the number of those who entered the sixth class and attended six full years before graduation. By six full years is meant six years with a total absence of less than twenty weeks during the whole period. By adding to 867 the numbers of those who entered the fifth, fourth, third, second, and first classes and attended five, four, three, two, and one full year, respectively, is obtained 1,067, the total number of those who actually took the full schedule time to finish the course; or, at least, took that time with a total absence of less than half a year in their whole course.

Then there are those who took more than the regular time to finish the course. The total number of these is 714, as follows:

	PUPILS.
Actually attended $\frac{1}{2}$ year more	202
1 " "	374
1 $\frac{1}{2}$ years "	55
2 " "	63
2 $\frac{1}{2}$ " "	13
3 " "	5
3 $\frac{1}{2}$ " "	2
	—
	714

Finally, there are those who took less than the regular time to finish the course. The total number of these is 873, as follows:

	PUPILS.
Actually attended $\frac{1}{2}$ year less	389
1 " "	341
$1\frac{1}{2}$ years "	73
2 " "	42
$2\frac{1}{2}$ " "	11
3 " "	17
	<hr/>
	873

The summary statement is this:

	PUPILS.
Actually attended the Grammar Schools	
the full regular time	1,067 = 40 %
Attended more than the regular time	
(from $\frac{1}{2}$ to $3\frac{1}{2}$ years)	714 = 27 %
Attended less than the regular time	
(from $\frac{1}{2}$ to 3 years)	873 = 33 %
	<hr/>
	2,654

This statement may be brought into direct comparison with the former statement, thus:

	Reckoned from dates of admission.	Reckoned from actual attendance.
Pupils who took the regular time	1,210	1,067
More than the regular time	916	714
Less than the regular time	528	873
	<hr/>	<hr/>
	2,654	2,654

Or, in terms of percentage, thus:

	Reckoned from dates of admission.	Reckoned from actual attendance.
Pupils who took the regular time,	45½ %	40 %
More than the regular time . . .	34½ %	27 %
Less than the regular time . . .	20 %	33 %
	100	100

These comparisons appear to afford a just and definite measure of the importance of the objection that has been brought against reckoning pupils' time in school by sole reference to the dates of their admission. Periods of absence do in part explain the apparent delay in finishing the Grammar School course, but only in part. When all due allowance has been made for absences, there still remains a large amount of delay that must be attributed to other causes.

Among the other causes that have been suggested, those that are general in their operation, like poor health, unfavorable domestic circumstances, inferior mental power, and moral weakness, may be set aside as affecting all schools and districts in about the same degree.

But there are two causes which affect schools unequally, and which must be recognized as explaining much of the delay yet to be accounted for. These are inefficient teaching and unwise management of promotions. If the teaching is good in all the classes of a school, and yet a large number, even a majority, of the children take more than six years to finish the course of study, there must be some defect in the management of promotions. On the other hand,

promotions may be well managed, but numbers of children may be hindered by inefficient teaching. To the unequal operation of one or the other or both of these causes may be attributed the very considerable differences observable among the schools. These differences are the next thing to be considered.

In order to prepare the results thus far obtained for presentation by school districts, it will be convenient to assume that all the pupils originally entered the sixth class. This is, as we have seen, literally true of 2,255 out of 2,654, or 85 per cent of the whole number. In case of the other 15 per cent, it cannot be far out of the way to assume that if they had originally entered the sixth class, the recorded attendance of each would have been greater by as many half years as the date of his admission would thus be moved back. The effect of this assumption is merely to make one group of all those pupils who entered the sixth, fifth, fourth, third, second, and first classes, and took respectively, six, five, four, three, two, and one years to finish the course. These have already been described as having taken the regular time to finish the course; they are now, for the purpose of tabulation, spoken of as having taken six years. In the same way are formed groups of those who took, actually or constructively, $6\frac{1}{2}$, 7, $7\frac{1}{2}$, etc., or $5\frac{1}{2}$, 5, $4\frac{1}{2}$, etc., years to finish the course. These groups are the totals of the columns in the following table, and the share each school contributes to each group may be seen by reading the lines of the table horizontally.

TABLE SHOWING THE TIME TAKEN TO DO THE WORK OF THE GRAMMAR SCHOOL COURSE BY THE GRADUATES OF EACH GRAMMAR SCHOOL, BASED ON ACTUAL ATTENDANCE. CLASS GRADUATED, JUNE, 1894.

SCHOOLS.	WHOLE ATTENDANCE IN YEARS.													Total pupils.	
	9½	9	8½	8	7½	7	6½	6	5½	5	4½	4	3½		3
Adams.....						3	16	2	3	1					25
Agassiz.....				1		5	6	16	7	2	1				38
Bennett.....					1	3	13	22	19	14	5		1		78
Bigelow.....	1				1	1	14	12	13	8	3				53
Bowditch.....				1	1	12	1	14	7	1					37
Bowdoin.....							5	7	6	8	4	1			31
Brimmer.....			2	2	1	12	1	12	2	3				1	36
Bunker Hill.....						6	3	31	4	2					46
Chapman.....			1	2	4	12	13	8	9	1					50
Charles Sumner.....				4	4	15	7	33	8	6	1	1			79
Comins.....				2		2	2	22	3	14	1	1			47
Dearborn.....						2	1	26	2	10					41
Dillaway.....				3		19		32	5	1		1			61
Dudley.....			1	2	1	9	2	23	2	4	1				45
Dwight.....				5	1	18	2	15	4	2	2	2			51
Edward Everett.....				4		11	2	24	6	9	2				58
Eliot.....					2	3	3	6	8	16	2	2	1		43
Emerson.....		1		2		9	4	22	5	1		4			48
Everett.....				1	2	12	6	32	18	2	1	1		1	76
Franklin.....					4	6	4	12	9	3		1			39
Frothingham.....						9	1	29	3		1	1			44
Gaston.....				2	1	11	4	22	2	3		1			46
George Putnam.....				1		6		14		3					24
Gibson.....				1	1	5	1	23	6	1	3		1	1	43
Hancock.....						6	2	12	5	2		1			28
Harris.....				1		8	3	15	6	9					42
Harvard.....			1	2		8	5	14	10	5		1			46
Henry L. Pierce.....					2	10	6	26	15	17	3	1	1	4	85
Hugh O'Brien.....					3	5	3	21	9	22	5	3		1	72
Hyde.....			1	1	2	8	4	19	7	2	2	3			49

SCHOOLS.	WHOLE ATTENDANCE IN YEARS.													Total pupils.	
	9½	9	8½	8	7½	7	6½	6	5½	5	4½	4	3½		3
John A. Andrew	4	4	8	5	13	4	2	1	.....	.....	.....	41
Lawrence	4	4	21	22	27	10	2	.....	.....	90
Lewis	12	3	50	13	17	1	1	.....	1	98
Lincoln	1	8	2	22	6	2	.....	.....	.....	.....	41
Lowell	1	2	1	39	4	5	.....	.....	.....	.....	52
Lyman	1	.....	.....	6	19	12	6	.....	.....	.....	.....	44
Martin	2	.....	3	1	14	6	9	1	.....	1	1	38
Mather	3	.....	17	5	33	2	7	2	.....	.....	1	70
Minot	1	.....	4	2	10	6	.....	.....	.....	.....	23
Norcross	1	1	3	5	6	10	7	3	2	.....	.....	1	39
Phillips	7	.....	19	5	10	.....	1	.....	.....	42
Prescott	1	7	5	20	3	15	1	.....	.....	1	53
Prince	2	1	.....	.....	13	.....	44	.....	12	1	2	1	.....	76
Quincy	2	3	7	19	2	4	1	.....	.....	38
Rice	2	.....	.....	1	1	13	10	7	3	.....	3	2	42
Robert G. Shaw	1	.....	4	10	8	2	.....	.....	.....	1	26
Sherwin	1	.....	3	3	2	5	.....	18	5	8	.....	.....	.....	.....	45
Shurtleff	5	1	14	9	10	8	6	3	2	.....	.....	58
Stoughton	1	1	2	14	12	.....	.....	.....	.....	.....	30
Thomas N. Hart	2	.....	1	1	22	1	6	1	.....	.....	1	35
Tileston	1	.....	.....	1	7	.....	.....	1	1	.....	.....	11
Wash'n Allston	1	8	14	14	8	4	3	1	.....	53
Warren	2	3	8	4	31	4	1	.....	.....	.....	.....	53
Wells	4	.....	14	7	3	.....	3	1	.....	32
Winthrop	2	.....	2	5	15	9	21	5	3	.....	1	.....	.....	63
Totals	2	5	13	63	55	374	202	1,067	389	341	73	42	11	17	2,654

This table affords the data for computing the average time taken in each school to finish the Grammar School course of study. It is perhaps not worth while to do this here, but there are some striking contrasts that will not be overlooked. There must

be great differences in the management of promotions when we find a full half of the pupils taking six and a half or more years of actual attendance to finish the course, as in the Brimmer, Chapman, Dwight, J. A. Andrew, Shurtleff, and Winthrop Schools; while in other schools, as the Bowdoin, Eliot, Hugh O'Brien, Lawrence, Quincy, Rice, Washington Allston, only five and one-half years or less time was taken by a majority of the pupils to finish the same course. Considering what these schools are, we can hardly explain such contrasts in any other way; for it is not probable that so much can be due to differences in the effectiveness of teaching or in local conditions. Many other points are suggested by the figures in the table; but they need not be considered now. The table will attract attention among principals and teachers, and the mere fact that it has been printed will doubtless have some effect in correcting faults, if any faults there are, in the present methods of grading and promoting pupils. Attention was pointedly called to this same matter three years ago, and some statistics were then printed. Since that time there has been some improvement. The average time taken to finish the Grammar School course was then reported as 6.35 years; now it is 6.25 years, — a saving of one-tenth of a year by 2,255 pupils.

Before leaving this subject, there are some things that ought to be said by way of suggestion or recommendation.

In the first place, all will agree that it is desirable that the number of those pupils who take over six

years to do the work of the Grammar course be reduced to a minimum. The large number of those who take seven years offers a particularly inviting point of attack. The causes of the delay in each school and in the case of each individual pupil should be discovered, and those that are removable — like want of room in the class above, unwillingness of teachers to teach two different grades in the same room, unreasonably high standards for promotion, loss of promotion as a penalty for troublesome behavior, etc., — should be eradicated or mitigated.

Secondly, there are certain tendencies inherent in the system of graded schools and classes that must be constantly watched and counteracted. Such are the tendency to overdo the business of drilling and reviewing in the hope of bringing the whole or the largest possible part of a class up to a satisfactory *average* standard of proficiency; the tendency to concentrate teaching effort upon the pupils of moderate abilities and industry, to the neglect, on the one hand, of the brighter pupils, who thus are permitted to waste time in dawdling and idleness or in useless repetitions of what has already been done well enough, and, on the other hand, to the neglect of the very slow and dull, whose preparation for promotion at the end of the term is early conceived to be a hopeless task, and so given up; and, lastly, the tendency, which of late years has become more and more a fixed habit, to make promotions only once in the school year, and that at the end of the year in June.

To work effectively against such tendencies there are several things which can be done. In large

schools where several divisions of the same grade (parallel divisions) are possible, all the stronger and brighter pupils can be gathered together so as to form a division by themselves. These can do the work of the grade in less than the regular time, and so pass on earlier to the work of the next higher grade. Thus they would all be kept wide awake with new work, *which is the only work out of which good mental growth is to be got.* Then the pupils of more moderate capacities can be formed into another division, given more time for their work, and taught by methods better suited to their powers. In smaller schools, where greater differences in capacity must be admitted among the same teacher's pupils, the demand on the teacher's power and skill of adaptation will certainly be greater, if all pupils are to be kept working at the top of their bent by seasonable supplies of new work. And yet there should be unceasing effort to do just this thing. Frequent reclassifications and promotions should be the rule. It is easy to have mid-year promotions, and to subdivide the work laid down in the course of study for this purpose. Neither should promotions be delayed till the end of the year or half-year. Whenever a division or a part of a division has done all the work of its grade with reasonable thoroughness, it should then immediately be permitted to break ground in the work of the next grade, and not be held to the end of the term in the dull and deadening work of drill and review. Not that reviews and drill are unnecessary; but when there is nothing else — no new work — for a long time, the effect is stultifying, as all experienced

teachers well know. It is this dull work of drill and review that most requires the aid of artificial stimulants like examinations and penalties to secure industry. Therefore, let promotion take place whenever a division or a part of a division can advantageously take up new work in the next grade. Nor should promotion be delayed until a change of room is conveniently possible; for there is no good reason why a teacher should not carry on the work of two grades in one room. To be sure, this requires a working against long-fixed habit and tradition. The idea of marching the pupils in unbroken platoons through the course of study is the ruling idea in a graded school system. But it is the duty of teachers and principals as well as of supervisors and superintendents to work against the influence of this idea, when they discover that the due advancement of pupils is delayed in consequence. The principals of schools are chiefly responsible for saving children from being sacrificed to the supposed interests of the graded school system. They have the power, if they but see the need and are willing to make the effort. There is nothing in the Regulations to prevent a sixth-class teacher from beginning fifth-class work, or a third-class teacher from beginning second-class work, at any time before the end of the year. Indeed, the four years' course of study recently adopted by the School Committee is intended to encourage the doing of this very thing. The Regulations also permit semi-annual promotions from the Primary Schools; and it is matter for surprise and exceeding regret that mid-year promotions have become so few

as they have been in recent years. Time was when mid-year promotions were not permitted, and then there was a clamor for them. They ought to be more used than they are now.

Thirdly, the time spent on the Grammar School course can be shortened by using the four years' course of study. This is a course parallel to the six years' course, and contains the same matters arranged in the same order, but divided into four grades instead of six. When the Supervisors were engaged in drawing up this four years' course of study, they found that the work set down for the sixth and fifth classes of the old course could easily be condensed into a single year's work. This was done; and so the work of Class D in the four years' course is practically equivalent to the work of the two lowest classes of the old course. The work of the fourth class of the old course was found to be a solid year's work, not susceptible of condensation; so that was left as it was, and it only changed its name in becoming the work of Class C in the four years' course. The work of the third and second classes of the old course, after condensation, became the work of Class B, and the work of the first class was assigned without essential change to Class A.

Thus the work appears in a comparative table:

SIX YEARS' COURSE.	=	FOUR YEARS' COURSE.
Work of Class I.	=	Work of Class A.
“ Class II. }	=	“ Class B.
“ Class III. }	=	“ Class C.
“ Class IV. }	=	“ Class D.
“ Class V. }	=	“ Class D.
“ Class VI. }	=	“ Class D.

Therefore, the four years' course offers opportunities for shortening the course of pupils through the Grammar Schools at two points, namely, at the beginning of the course and at the beginning of the second half of the course. When children are received from the Primary Schools, all the older, stronger, brighter, and better fitted should be put at once upon the work of Class D, rather than upon that of Class VI. There ought to be a Class D in every Grammar School. Under good teaching the children in such a class would do all the work worth doing in the first two grades of the old course, and so at the end of one year would be ready for the work of Class IV, or Class C. Thus a year would be saved by many children in the first half of their course. Then, there are children who might be promoted from the Primary Schools at mid-year, and allowed a year and a half of time in which to do the work of Class D. These would save half a year in the early part of their course. In the last half of the course are similar opportunities for saving a year or half a year by means of a Class B, composed of children doing in one year the work of the third and second classes of the old course, and of other children, promoted at mid-year, doing that work in a year and a half. Thus there might be for considerable numbers of children a saving of two years in the whole course, and for larger numbers a saving of one year; and, best of all, this saving could be made without breaking the continuity of the course by "skipping" grades or by taking "a double promotion," the only means now used for shortening a pupil's time in the course.

Fourthly, there is a financial aspect of the case which may be worth considering. As already pointed out, the average length of time in school for over 2,200 graduates of the Grammar Schools has been reduced from 6.35 to 6.25 years. At the rate of twenty-eight dollars a year for each pupil, this means a saving of over six thousand dollars a year. If by good management the average time taken for the Grammar School course could be reduced a whole year (and this is by no means an extravagant expectation) the annual saving on the Grammar Schools would be over sixty thousand dollars. This money would pay the salaries of a hundred extra teachers for the grammar schools — two for each school, except a few of the smallest ones, which could have one. These extra teachers could contribute still more to the saving out of which their salaries would be paid; for, by making it possible to reduce the number of pupils assigned to each teacher, they would make it easier for each teacher to bring her pupils faster along the course. This view of the matter certainly suggests that when the School Committee sees fit to reduce the number of pupils to a teacher, a part if not the whole of the additional expense for salaries will be saved in consequence of the quicker progress of pupils through the school. This point seems worthy of serious consideration; for there can be no doubt that the time of pupils in the Grammar Schools is now unduly prolonged, largely in consequence of the teachers being overburdened with large numbers of pupils in their classes, especially in the lower grades. These over-full classes are a

serious hindrance to the progress of individual pupils, and are therefore costly from the pecuniary point of view.

TIME REQUIRED FOR THE PRIMARY SCHOOL COURSE OF STUDY.

This matter, like the similar one in relation to the Grammar Schools, would repay the trouble of investigation. The course of study is laid out for three years, but the ever-increasing ages of children, observable at the time of their promotion to the Grammar Schools, seem to indicate a growing delay of advancement in the Primary grades. It is very well known, of course, that the attendance of young children at school is more seriously interrupted by inclement weather, sickness (children's diseases), contagious diseases, etc., than is the attendance of older children; and yet some persons very familiar with our Primary Schools have been greatly astonished when told of the large numbers of children who spend more than three years in the Primary Schools. Taking the latest set of June promotion records at hand and classifying the cases, I find that 46 per cent of the whole number promoted had spent more than three years in the Primary Schools; 33 per cent had spent four or more years; 7 per cent had spent five or more years; and 1 per cent had spent six years. On the other hand, 34 per cent had spent just three years, and 20 per cent less than three years.

SUMMARY.

Pupils spent in Primary Schools:

	PER CENT.
The regular time	34
More than the regular time	46
Less than the regular time	20
	<hr/>
Total	100

The average time taken by all was 3.32 years.

Many of those who spent less than three years in the Primary Schools must have entered originally some class higher than the third; but the precise number of such children cannot now be ascertained. What calls for special attention is the very large number — nearly a half of the whole number — who spent more than three years in these grades. The primary classes are badly clogged with such children, and consequently there is even a greater need of increasing the effectiveness of teaching in the Primary Schools than there is in the Grammar Schools. There is one sure way to increase the effectiveness of the teaching, and that is by reducing the number of pupils to be taught by each teacher.

Many years ago the quota in Primary Schools was forty-nine instead of fifty-six as now. The change was made in the supposed interests of economy. But if the effect has been to retard the progress of pupils through the Primary Schools, — and there is good reason for believing that such has been the effect, — then the saving in the number of salaries

paid may have been offset by the increased cost of educating those pupils who have thus been compelled to spend a greater number of years in school. However this may be, there are other and stronger reasons why the Primary teachers ought to be relieved by a reduction of quota. Too many of these teachers are now decidedly over-burdened, and are compelled to seek relief by requesting leaves of absence and paying for substitute teachers. The substitute's service is rarely as effective as that of the regular teacher, and is usually far inferior. Consequently the progress of the class is still more hindered than it would have been had the over-burdened regular teacher remained in her place. When it is remembered that large numbers in Class III fail to be advanced at the end of the year and are thus obliged to repeat the year's work; that those pupils who have small prospect of promotion are sure to be neglected by the over-burdened teacher; that Class III usually contains over 10,000 pupils (this year there are nearly 12,000), whereas under favorable conditions it ought to contain no more than 7,000 or 8,000; that other classes are similarly clogged, though to a less degree; and that the evil of over-full divisions is rankest in the Primary Schools, and particularly in Class III, there ought to remain no doubt that a reform taking the Primary Schools back to the old quota of forty-nine is urgently needed. If the time ever comes when the School Department is relieved from financial stringency, here is the point where increased expenditure will be amply justified.

ORGANIZATION.

The reports on organization were rendered October 31, 1894. They were handed first to the Supervisors, who were requested to take careful note of the matters reported, and to coöperate with the principals in making improvements. A table exhibiting the organization of each school and district might be printed and commented upon; but my purpose is not so particular; it is now merely to call attention to certain general facts which need to be kept constantly in view in our reasonings about the schools and the teachers.

The following table shows how many divisions in the Grammar and Primary Schools, as organized October 31, 1894, exceeded and how many fell short of the regular quota, fifty-six; and in what classes the larger and in what classes the smaller divisions were the more frequent.

NUMBER OF PUPILS IN A DIVISION.	NUMBER OF DIVISIONS IN EACH GRADE.										Total Divisions.	
	Grammar.							Primary.				
	I.	II.	III.	IV.	V.	VI.	Ung.	I.	II.	III.		
21 to 24							4	1				5
25 to 28		1					2	2	1			6
29 to 32	1	1		1	1		4	1		3		12
33 to 36	4	2	4	2	2		7	3	7	2		33
37 to 40	19	2	4		1	5	6	8	5	8		58
41 to 44	19	9	6	7	4	9	6	16	8	13		97
45 to 48	11	14	8	6	16	20	9	26	21	23		154
49 to 52	8	21	34	32	21	18	3	32	31	38		238
53 to 56	7	21	31	50	45	43	1	45	57	59		359
57 to 60	3	10	11	21	32	24		25	27	32		185
61 to 64	1				3	3	1	2		15		25
65 to 68					*1	*1		*2	*2	*8		*14
69 to 72										*1		*1
73 to 76			*1							*3		*4
77 to 80										*2		*2
51 to 84												

*Special assistant employed.

The striking thing about this exhibit is the manifest tendency to organize with the smaller divisions in the upper grades and the larger ones in the lower grades. I have no wish to stir up discontent among the teachers of the lower grades by suggesting that they have a grievance. But this inequality of distribution needs to be corrected if the highest efficiency is to be obtained from the present teaching force; for it is the reverse of economy to overwork the younger and less experienced teachers and underwork the older and abler ones. That the prevailing

methods of organization tend to do this, the figures above given unmistakably show.

Another matter upon which attention needs to be kept fixed is the advancement of pupils through the grades. Large numbers of pupils failing of promotion after a year's study in a grade, certainly indicate something wrong somewhere. Each principal can easily compare the numbers in his own school with the numbers in the following table, which shows the average state of things in the whole city. If he thinks he ought to pass to the other side of the average from where he is, the way is open.

GRADES.		Whole number in the grade, Oct. 31, 1895.	Number not promoted dur- ing the preced- ing year.	Per Cent.	Number twice promoted dur- ing the preced- ing year.	Per Cent.
GRAMMAR.	Class I.	2,986	36 =	1.2	159 =	5.3
	Class II.	3,920	289 =	7.4	198 =	5.1
	Class III.	5,146	403 =	7.8	192 =	3.7
	Class IV.	6,390	618 =	9.7	237 =	3.7
	Class V.	6,710	548 =	8.2	369 =	5.5
	Class VI.	7,021	548 =	7.8	167 =	2.4
PRIMARY.	Class I.	6,966	308 =	4.4	219 =	3.1
	Class II.	8,181	746 =	9.1	83 =	1.0
	Class III.	11,967	2,023 =	16.9	32 =	0.3

A comparison of the per cents in the second column with similar per cents recently published (School Document No. 12, 1892, page 8) shows that there has been an improvement since attention was called to this matter three years ago, so far as the

Grammar Schools are concerned. With the Primary Schools the tendency has been slightly the other way.

The numbers in the third column are reported in response to a suggestion once made to me that the number of pupils not advanced one grade during the year from October to October might be offset by the number advanced two grades during the same time. It will be seen that this is not so, except in the graduating class of the Grammar Schools; but there is a partial offset.

Three years ago I promised to keep attention fixed on this matter by presenting the statistics, and it seems that some good has been accomplished by doing so. Of course it may be said of this and like statistical inquiries that they belong to the externals of education — do not reach its central life and force, which reside not in statistical tables, but in the school-rooms with children and teachers. True, indeed. But at the same time those who are entrusted with the management of a system of schools must be constantly on the alert to discover tendencies, whether good or bad, to measure their effects, and to reinforce or to counteract them, as may be necessary. There is no more effectual way of doing this than by studying the statistics and printing them for others to study. And these external facts gathered from statistics will be seen, on a little consideration, to have a very direct bearing on the most vital thing in education, the efficiency of teaching. Who, for example, would not admit that with more efficient teaching the proportion of children failing to be prepared for advancement

to the next grade year by year could be considerably reduced; or that the numbers of children prepared for advancement in less than the regular time could be considerably increased? Who can observe the great size of Class III of the Primary Schools, nearly twelve thousand children, noting also the fact that more than one-sixth of them passed a year in school without being promoted, and then fail to see that increased efficiency of teaching needs to be applied to this class above all; and when another statistical fact is taken into account, namely, that teachers of this class generally have larger numbers of children assigned to them than are assigned to the teachers of any other class, who can fail to see that more teachers and a smaller number of pupils to a teacher are imperatively needed in the lowest class of the Primary Schools?

THE ENRICHMENT OF THE GRAMMAR SCHOOL COURSE.

The introduction of Latin, French, Algebra, Geometry, and Physics into the Grammar Schools under certain limitations was recommended by me last September; and, after a reference of the matter to the Board of Supervisors for their opinion, which was favorable, the recommendation was adopted by the School Committee. Several weeks were consumed in the effort to secure suitable text-books; not that the work of selection is in itself a very difficult matter, but there are so many conflicting views to be met and reconciled before the necessary number of votes can be had for the adoption of any book that

prompt action cannot be expected. It was nearly mid-year before final action had been taken on textbooks.

The matter is now before the masters. Each one of them is free to accept or decline the invitation that has been given him to enrich the course of study in his school. In a personal conference with each master, I have become familiar with the special circumstances which might properly influence his decision. There is good reason to believe that many masters who have done nothing this year will desire to make a beginning next year with Latin or with French, and perhaps with some other branches. There are three schools in which a most encouraging beginning has already been made with French, so the Director of Modern Languages reports. In Latin, too, something substantial will be done in a few schools before the end of this year -- enough, very likely, to prove that if it were started in the second class, so that children might have two years at it before leaving the Grammar Schools, a very considerable and useful though elementary knowledge of Latin could be acquired in that time. Algebra has been introduced quite generally and successfully. The textbook is an easy one, too easy in my judgment; but it has the advantage of not being too big a book to finish between the middle and the end of the year. The way in which the children take hold of algebra after years of drill on arithmetic is significant. I have recently been told of a child who was at the foot of the class in arithmetic, but who leads the class in algebra. Instances like this are not infrequent in the

experience of teachers who have taught both subjects to children of Grammar School age.

In geometry, so far as I have learned, nothing has yet been done. For my own part, I believe that elementary practical geometry is an even better discipline for children than algebra. This is no theoretical conclusion of mine: it is the result of some experience in the teaching of young children years ago. In Boston, it is possible that the "form study," which takes place, or may take place, in connection with the drawing, supplies in part the geometrical ideas which young children need to acquire. But this is not enough. Such ideas as may be acquired in "form study" and drawing need enlargement, completion, precise definition, and a rational, systematic putting together in a form which can be called geometry. Therefore it is not admitted that the "form study" incidental to the drawing gives all the knowledge of geometry it is desirable Grammar School children should have.

The purpose intended to be accomplished by the introduction of experimental physics into the Grammar Schools is that pupils may be trained in the doing of accurate quantitative work in the measurement of the effects of physical forces. Of course such training must be of an elementary kind, and cannot bring into use the complicated and delicate apparatus of the high school or college physical laboratory. But there are experiments with comparatively simple apparatus yielding quantitative results, the obtaining of which, with all practicable accuracy, affords some of the most valuable training of eye,

hand, and mind that the Grammar School course has to offer. It is therefore desirable that the necessary apparatus be provided in the Grammar Schools for quantitative experiments in physics. The expense need not be great, not a tenth part of the money that has already been laid out on physical apparatus for merely illustrative purposes would be required. The adoption of a text-book specially intended to guide and facilitate elementary quantitative work in physics is also desirable and is still desired.

Speaking generally, it may be said that there is every reason to feel encouraged by the way in which the project of enriching the Grammar School courses by the introduction of new branches has been taken up by the masters. The question has been asked, Why not require at once the introduction of the new branches into all the schools alike? My answer has been that I would not make such a requirement if I could, much as I desire to see the work of enrichment go on. It is much better, in my opinion, that the work proceed by the voluntary coöperation of the masters each acting with a consciousness of his own part and responsibility in the matter; for, although results may be longer in coming this way, they are more likely to be excellent and permanent when they come. Not all the schools are yet provided with teachers able to teach the new branches well; but there are some teachers who are preparing themselves for the work; and there are some principals now on the lookout for properly prepared teachers with whom to supply the next vacancies in their schools. Another year, I feel sure, a more extensive introduction

of the new branches may be looked for; and the amount of work will undoubtedly be greater when it can start at the beginning instead of after the middle of the year.

ARE THERE TOO MANY STUDIES, AND IS THERE
TOO MUCH PRESSURE?

What has been said in other paragraphs of this report about shortening the time spent by pupils in the Grammar Schools, and about enriching the course so as to give the pupils more work to do, is likely enough to provoke the usual remark, that there are too many studies now, and too much pressure applied to urge pupils through them.

The perfect school is the school in which all the pupils have enough work to do, and no pupil has too much. Such schools are too rarely found among the schools of a graded system. The influences of such a system are all against variations in the amounts and kinds of work required of individual pupils. No teacher would venture to require of a whole school the work which the bright and healthy pupils would easily do, and need to do in order to keep their minds open and alert. On the other hand, that would be a slow school indeed which set the pace for all by that of the dull, the feeble, and the sickly pupils; and yet these have as good a claim to right treatment as the bright and healthy have. The tendency of a graded school is to sacrifice the interests of both these classes of pupils by providing only for those of middling abilities and moderate industry. So there are always likely to be found faithful, but slow or feeble, pupils

who cannot keep up with the school; and these are the ones who rightly complain of over-pressure. But there are always others who are not fully occupied with the work of the school; and these need additional studies.

The more machine-like a graded school becomes in its operations, the more do these two evils of over-pressure and under-work appear. The only remedy is to break up uniformity, individualize the work, give some pupils more and others less to do, having regard to health and strength as well as to degrees of mental ability. A graded system of schools is a splendid machine for merely administrative purposes, and minds of an administrative cast contemplate its advantages with peculiar satisfaction; but those who are running such a machine should not be permitted to overlook its constant tendency to the sacrifice of individuals, or to spare any efforts to counteract that tendency. Indeed, it may be said that teachers, supervisors, and superintendent are in their places not merely to run the graded school system, but chiefly to save the largest possible number of pupils from being sacrificed to its machinery.

From this point of view, emphatic commendation is to be given to a change lately made in one of the two great high schools. For fifteen years past it had been the practice in that school to keep all the pupils of the same year nominally on the same level. Such a thing as gathering the brighter and stronger ones into a division by themselves and giving them more and higher work, as suited their capacities, was not permitted. Neither could the slower and weaker

though not less deserving pupils be gathered into a division by themselves and taught in a manner better adapted to their capacities. The brightest and the dullest, the strongest and the weakest, must stay together the whole year through in the same room, attempt the same lessons, and receive the same instruction. It was probably supposed that the inferior wills and intellects of some pupils would be improved by association with others of superior powers. However this may have been, it is certain that the superior minds were much hampered and delayed by their enforced association with inferior minds, and so failed to obtain from their schooling all that they might have obtained under more favorable circumstances. Now, all this has been changed; and henceforth pupils will be placed in different divisions, according to their grade of health, ability, and industry. In this way all the pupils will be kept working as hard as they ought to work, and yet none will be overworked. The results will be a great advance in the standard of scholarship in the school, and a corresponding enhancement of the benefits which pupils of superior minds will derive from their schooling. This is a matter of public importance, for society in a democratic state can ill afford to lose superior minds in whatever circumstances born. The best claim that universal education can make to public support is that, through its opportunities, all youth of superior mental endowments and moral worth can be prepared for the highest walks of honor and usefulness. Therefore should all needful provisions be made in public schools for the

fullest development and training of all superior minds. Among these provisions are enrichment of the courses of study and flexible, frequently changing classification of pupils. At the same time, the less gifted and weaker pupils should receive no less attention, in order that their tasks and the methods of their instruction may be suited to their inferior capacities. When all this is done the schools will be free from the reproach of injurious over-work and equally injurious under-work, and a step in advance will have been made in the management of graded school instruction.

MUSIC.

The five reports of the five instructors of music printed in the Supplement give interesting views of the various aims and methods pursued in this part of the school work. It is to be kept in mind that there is no authorized course of instruction in music; so that uniformity throughout the city is the last thing to be expected. The course of study covers the whole matter of music with this provision:

GRAMMAR SCHOOLS. One hour a week. "Each special instructor of music will, under the direction of the committee on music, determine the topics, the order of topics, and the method of instruction within his own circuit of schools."

PRIMARY SCHOOLS. "Each special instructor of music will determine the topics, the order of topics, and the method of instruction within his own circuit of schools."

This is not, or ought not to be, a satisfactory state of

things. A deliverance has more than once been attempted, through a harmonizing of the conflicting views which prevail concerning the proper form and contents of a uniform course of instruction; but, thus far, efforts in this direction have been fruitless. The difficulties have been increased tenfold when the question of a course of instruction has involved itself with questions of method, and when these, in turn, have become inextricably mixed up with questions of text-books. In spite of all efforts to keep the discussion of principles and methods apart from a consideration of text-books, the two are constantly entangled. The trial of methods instituted several years ago became involved in this way, and, probably for that reason more than for any other, has never been brought to a conclusion. As a consequence, the schools have ever since been left with the same absurd and needless variety of text-books which was at first authorized (temporarily as was supposed) for the purposes of the trial. The new books representing the two competing methods were at first placed in two quarters of the city, while the old books were left to supply the schools in the remaining half of the city, pending the trial. By a kind of working compromise of the questions at issue, the old books left in a half of the city have been partially replaced by new books from the two rival series on about equal terms. But this process of displacement would appear to be going on too slowly; for complaints are heard not merely that books are antiquated, but that the supply of even these is inadequate.

Notwithstanding the chaotic state of things in the

matters of organization, course of instruction, and books in the music department, there has been much good work done all over the city. With special satisfaction I note the excellent results that have come from the work of the assistant instructors in music in the Primary Schools. Many favorable reports of this work have come to me from Primary School teachers, and these have generally been confirmed by the observations of the Supervisors.

It hardly seems necessary for me to say more on the subject of music in the present report, considering that I have spoken fully and plainly in former reports, and now see no reason to change the opinions there expressed. Briefly stated, my conclusions are these:

(1.) There is need of a Director of Music, charged with the whole responsibility for the work in this department.

(2.) There is need of a course of instruction which shall be definite in at least two respects — contents and standards. Certain songs, designated by name, should be learned and well sung by the children in each class (or grade) throughout the city. There should also be a definite standard of facility in reading music (that is, singing from notes), which graduates of the Grammar Schools should be expected to reach.

(3.) The question of methods need not disturb either the contents or the standards of a course of instruction, but may be safely left to individual instructors.

(4.) There is need of a uniform series of textbooks, not all necessarily the books of the same

author or of the same publisher, but preferably, perhaps, those of different authors or publishers, and in either case selected mainly for the excellence and appropriateness of the songs they contain.

(5.) Supplementary music should be furnished to all the schools alike, and alike used by all the schools.

DRAWING.

The reawakening of interest in this branch of school work which preceded and accompanied the introduction of the new course of study last year has been well sustained this year. The course of lectures by eminent experts, to which the teachers were invited by the Committee on Drawing this year, has invested the subject with a new dignity in the minds of the teachers. The practical lessons given by the Director of Drawing and his assistant have been continued this year from last, and have been well attended. These or similar lessons ought to be given every year until every teacher who is required to teach drawing shall have had all the technical assistance needed. Probably this would mean an indefinite continuance of the lessons; but after this year the lessons might be given at some central place instead of being repeated in several places throughout the city as is now done.

Last year, when addressing the teachers on the new course of study in drawing, I promised them that the samples of pupils' work which they would be requested to send in should be carefully inspected. That promise has been kept. The work sent in was from all the classes of all the schools, with trifling

exceptions. The whole of it was inspected and rated by the Director of Drawing, who speaks of it in his report, which will be found in the Supplement. A large part of the work was also inspected and rated by me, independently of the Director; but the rating finally assigned to each class was the result of a comparison of our marks. In all our inspection the sole question in our minds was, Does this work afford evidence of excellent, or good, or passable teaching? To be sure it was not the *whole* work done by each teacher's class; but it was enough; for a teacher has the right to be judged by the best not the worst part of the results of his teaching. Indeed it is only the best part of the results that show the character of the teaching at all clearly.

By making a rough classification on the basis of the marks so given, it may be said concerning the Primary Schools that the work in six districts is excellent, that in twenty-two districts good, and that in twenty-seven districts passable.

Concerning the Grammar Schools, it may be said that the work is excellent in fourteen districts, good in thirty-six districts, and passable in five districts. There is a pervading excellence in the work sent in by the Adams, Agassiz, Bowditch, Bunker Hill, Dillaway, Edward Everett, Emerson, Everett, Franklin, Harris, Lincoln, Lyman, Mather, and Rice Grammar Schools. Among these schools the work of three, that of the Edward Everett, the Everett, and the Rice Schools, deserves mention for highest excellence.

The work which came in from the Primary Schools

was found to be excellent in the George Putnam, Henry L. Pierce, John A. Andrew, Lincoln, Rice, and Stoughton Districts.

It is understood that the Committee on Drawing has issued an order to the teachers requiring them to preserve all their work in drawing done this year, with a view of collecting it at the end of the year. It is to be hoped, if this is done, that some means may be provided by which the whole collection of work may be examined with sufficient care to determine how the work of each school and of each teacher should be rated. This would be a piece of work which would require the time of three or four experts for some weeks, but I believe the results to be thus obtained would well repay the expenditure of labor.

The need of more help in the drawing department has been declared on former occasions; and I have sought to add emphasis to the point by suggesting a comparison between the amount of help employed in this department and the amount employed in the department of music. For helping the teachers who need help, and for annually inspecting and reporting upon the quality of each teacher's work, the services of three or four more assistants in the drawing department seem to me to be needed; and I respectfully submit my recommendation to that effect.

EXHIBITION OF DRAWING AND OF OTHER SCHOOL WORK.

It is many years now since a general exhibition of drawing has taken place. Formerly such exhibitions were frequent. There is no doubt of their stimulating effect on the work of the schools, nor of their

value as a means of information to the interested public. The same may be said, too, of all other kinds of school work that are susceptible of exhibition, as sewing, wood-work, writing, compositions, natural history collections, pupils' apparatus for experiments, models in clay, wood, or pasteboard, etc. The abundance of such things exhibited on visitation days in the several schools proves that the material for one general collective exhibition would be practically unlimited. And then if the teachers and the pupils of each school could examine the work of all other schools thus brought into comparison with their own, there would be kindled a desire for more excellent achievement that would give new life to the schools.

A suggestion of what might be done in this matter was given by the Educational Workers in their great Conference on Manual Training, four years ago. At that time the whole Latin and English High School building was converted into one great bazaar for the exhibition of the products of manual training. Why might not the same thing be done by the School Committee for a general exhibition of school work? The cost of the first exhibition might be considerable, but the cost of subsequent ones would be trifling, because all the framework could be so made the first time as to be easily taken down, and put up again for a second and subsequent exhibitions. All this could be done without interference with the regular work of the two schools occupying the building, if the time for the exhibition were properly chosen.

But if this scheme should not be thought feasible,

there remains the alternative of renting suitable premises, the Charitable Mechanics building, for example, where an exhibition of school work could be held for a couple of weeks, to culminate and conclude with the Annual School Festival.

WOOD-WORKING IN THE GRAMMAR SCHOOLS.

This work has been going on this year as last, under courses of exercises not uniform, although not so dissimilar as some are disposed to think.

A uniform course has been asked for by the Committee on Manual Training, but Mr. Leavitt and I have not yet been able to make a course satisfactory enough to ourselves to be offered to the committee for adoption. Meanwhile Mr. Leavitt, taking the courses as he finds them in the several schools, has been using his best efforts to secure a better style of workmanship from the boys. There are still some unsolved doubts about the suitability of the tools now in use to the size and strength of the boys. The experience of this year will probably throw more light upon the question. Indeed, it must be kept in mind that this whole matter of wood-work in the Grammar Schools has not yet got beyond the experimental stage. Even if the question of systems should be settled at one stroke, by the adoption of sloyd to the exclusion of everything else, there would remain all the questions of adaptation of tools and exercises to the size and strength of boys, the question as to the length of the course, and the question whether boys of the first class are to continue the wood-working begun in the second class. For my own part I confess to an immaturity of opinion upon

most of the questions mentioned. I had hoped for considerable light from certain reports that were called for last summer, but got little. This year my intention is to ask not only for reports, but that the whole work done be collected and arranged for inspection in some convenient place or places.

THE MECHANIC ARTS HIGH SCHOOL.

This school is drawing near the end of its second year. Notwithstanding the occurrence of numerous unexpected difficulties, the two classes now in the school have made most encouraging progress in their work both with books and with tools. Mr. Parmenter's interesting report, which is printed in the Supplement, gives a view of the present condition of the school and of its prospects. For my own part, I feel highly pleased to see the school in excellent working order; the boys eager, enthusiastic, and well behaved, and the teachers able and devoted. The future appears to me full of promise.

The appropriation for tools and machinery is being carefully expended; and there is good reason to hope that the machine-shop work of the third year will be provided for before the time set for that work to begin. Unfortunately the appropriation made for this special purpose has been somewhat encroached upon by expenses that should have been covered by earlier appropriations; but the best possible will be done with what remains.

The completion of the building according to the original design, which has been postponed for a time, will soon become an absolute necessity, if the purposes of the school are to be adequately fulfilled.

THE EVENING HIGH SCHOOL.

The Evening High School, including its branches in Charlestown and in East Boston, has completed a prosperous and successful season's work. For several years past, under good management and faithful supervision, the work of the school has been growing more systematic, more thorough, and more fruitful in benefit to the young people of Boston.

The system of certificates and diplomas — the former testifying to the satisfactory thoroughness with which particular branches have been studied, and the latter conferred on those who have obtained certificates in the required number of branches — has undoubtedly done much to stimulate industry and promote steady continuance in the work of the school. It may be said, of course, that incentives of this kind are inferior to the pleasures of knowledge, which are open to every earnest student; but who shall say that the inferior incentives are useless if they prepare many for the operation of the superior incentives?

There has been of late years a gratifying increase in the number of pupils who pursue the higher branches in languages and in science, as well as in the breadth and thoroughness of their work. The character of the school has been elevated in consequence. There would seem to be no reason for limiting the opportunities for growth and improvement in this direction. Indeed, when the advocates of university studies in the public schools shall succeed in procuring money for that purpose, they may be assured that the Evening High School furnishes the best field for their enterprise; for evenings will probably be the

most convenient time, both to most persons who would be available as teachers, and to most persons who would desire to obtain instruction in advanced studies. The proposition to make the Evening High School a kind of city university is not always taken seriously, yet a little reflection may show it to be not altogether absurd. If any real demand for university instruction exists in this city, arrangements could easily be made in the Evening High School to test and measure it by offering advanced courses in Greek, Latin, Modern Languages, Higher Mathematics, History, Political Economy, and the Physical and Natural Sciences. But an immediate adoption of this suggestion is not reasonably urged at a time when it is difficult to procure the money needed to build new buildings and keep the old ones in proper sanitary condition for the day schools.

The total number of pupils registered in the Evening High School this year is 2,996. Of these 2,306 were registered in the Central School, 520 in the Charlestown branch, and 170 in the East Boston branch. In the Central School about a half of the whole number were registered for attendance Monday, Wednesday, and Friday; and about one-half for attendance Tuesday and Thursday. Only a few — about 300 — were registered for attendance five nights a week. All those registered in Charlestown and in East Boston were registered for attendance three nights, Monday, Wednesday, and Friday.

The per cent of attendance in the Evening High School has never been printed among the statistics, because the proper basis on which to reckon it has been a matter for difference of opinion, and, more-

over, no basis has been suggested that was not difficult to get at. This year, however, I have gone to the bottom of the question by taking the teachers' nightly reports of attendance, and tabulating the number of pupils belonging and the number present each hour of every evening from the beginning of the season to the end. This tabulation yields an absolutely accurate statement of the truth — which is that the average per cent of attendance in the Evening High School has been, this season, 73.5; in the Charlestown branch it has been 71.6; and in East Boston, 72.4. The details are given in the following table:

EVENING HIGH SCHOOL.

	Largest number belonging.	Smallest number belonging.	Average number belonging.	Average attendance.	Percent of attendance.
CENTRAL SCHOOL.					
<i>Monday.</i>					
First hour	1,171	667	882	675	76.5
Second hour	1,191	661	872	667	76.5
<i>Tuesday.</i>					
First hour	1,176	525	805	605	75.2
Second hour	1,132	541	791	593	75.0
<i>Wednesday.</i>					
First hour	1,137	660	884	636	72.0
Second hour	1,196	654	872	632	72.5
<i>Thursday.</i>					
First hour	1,193	510	813	569	70.0
Second hour	1,158	523	796	558	70.0
<i>Friday.</i>					
First hour	1,171	659	898	661	75.0
Second hour	1,177	643	883	646	73.5

EVENING HIGH SCHOOL. — *Continued.*

	Largest number belonging.	Smallest number belonging.	Average number belonging.	Average attendance.	Percent of attendance.
CHARLESTOWN BRANCH.					
<i>Monday.</i>					
First hour	406	128	252	192	76.
Second hour	415	126	252	191	76.
<i>Wednesday.</i>					
First hour	397	142	256	179	70.
Second hour	415	141	257	177	69.
<i>Friday.</i>					
First hour	411	134	264	184	70.
Second hour	415	128	262	182	70.
EAST BOSTON BRANCH.					
<i>Monday.</i>					
First hour	115	68	88	64	74.
Second hour	101	68	87	67	76.
<i>Wednesday.</i>					
First hour	115	53	87	62	72.
Second hour	101	57	86	63	73.
<i>Friday.</i>					
First hour	112	56	87	61	70.
Second hour	102	58	86	63	73.

THE NORMAL SCHOOL.

The Normal School undoubtedly needs a new building, but this is in a fair way to be provided for. There is another thing the Normal School needs even more than a new building, and that is adequate means

for giving its pupils during their course of professional training considerable experience in the actual teaching of children. The feeble attempts already made in this direction have not been attended with satisfactory results. This matter is of the very first importance to the schools of Boston, because it is the professional training received in the Normal School that determines the character of the greater part of the teaching in the schools of the city.

The managers of normal schools everywhere are coming to the conclusion that these schools cannot do their proper work well unless their students are given opportunities to learn the art of teaching by teaching children. It seems strange, when we think of it, that for more than a generation normal schools have gone on ignoring the practical side of their work and contenting themselves with theoretical instruction in the science of education. What hospitals are to medical schools, what moot courts are to law schools, what laboratories are to schools of science, that practice schools are to normal schools. Recognizing this, the managers of the best normal schools in the country have connected these schools with the public schools in their neighborhood, which they have been permitted to use as practice schools.

The results have been excellent. The normal students have become better teachers than otherwise they could have been at the end of their professional training, and, contrary to the expectation of some, the children in the practice schools have been better taught. Parents have ceased to object to having their children "practised upon by apprentices" and

have sought with eagerness the superior teaching in the practice schools. So practice schools have proved themselves to be doubly advantageous. Such being the result of experience, it follows that a normal school to be up with the times should have its practice schools. The best educational thought and practice of the day demand them. The only remaining question is that of ways and means.

In a large city like Boston, with its fifty-five Grammar Schools and all the attached Primary Schools, there should be no difficulty in finding schools enough to serve as practice schools. A certain normal school in another State sends its students to a town eighteen miles away for their practice. If this trouble is compensated by the results, Boston could easily be more than compensated for the trouble she might take. Among the twelve hundred Primary and Grammar School teachers of Boston it would be an easy matter to select an ample number possessing superior knowledge and practical skill to serve as training teachers. Under their guidance, the normal students would take the first steps in the art of teaching; and their classes or schools would thus become the practice schools which are needed.

All this could easily be provided for, and indeed has been in part provided for already, though in a feeble, uncertain way. What is needed is a more complete and a more stable system, organized for continuous, vigorous, and effective action. The existing regulations do not provide this; and although they have been changed again and again, little improvement has been effected. The reason is that the

chief seat of the difficulty has not been reached, and it will not be reached until the superior teachers whom the city invites to render an important extra service shall be encouraged to accept the invitation by an offer of suitable compensation. Good things cannot be had without paying for them, and it is unworthy the city of Boston to expect the services of an able corps of training teachers without paying for them. On this point there are some remarks in the report of the Head-master of the Normal School (Supplement, p. 297), to which attention is invited. The report does not exaggerate the difficulties and the inadequacies of the present provisions and lays none too much emphasis on the necessity of paying servants if good service is expected.

But the pay of training teachers will not be an uncompensated outlay even from the monetary point of view. We are constantly told that one great reason why children fail to be promoted is that they have been inefficiently taught by substitutes and young teachers. But these inefficient teachers are no other than the recent graduates of the Normal School, who are getting their first real experience in teaching. Now, if, by means of good practice schools, the Normal School graduates shall be made more efficient teachers from the outset, and if as a consequence the children should pass up from grade to grade with less loss of time than now, there would be a saving of money on every pupil whose progress was thus accelerated, and the total saving might easily cover the entire cost of the training teachers. Money spent on the Normal School to increase the

efficiency of its graduates in the earliest years of their teaching will be largely, if not wholly, saved in the diminished cost of the tuition of those pupils who in consequence of better teaching pass more quickly through the schools. (See p. 29.)

Another consideration may be urged in favor of giving the training teachers extra compensation for their services. It would be a fitting recognition and reward conferred upon superior teachers for excellence in the regular service. A generous recognition of superior service in this way would unquestionably stimulate the whole body of teachers to put forth their best efforts, and so elevate the standard of teaching throughout the city. Honorable mention is pleasant, but honorable mention accompanied by a substantial honorarium possesses an added charm and satisfies a sense of justice. It would be a pleasant thing and good policy too, if all teachers of distinguished excellence could be rewarded in this way.

THE PARENTAL SCHOOL.

The Parental School will soon be ready to receive the boys whom the courts may send there. This is a welcome announcement, for it must be said that the state of things that has existed in relation to truants the past few months could not be endured much longer without grave peril. It is said that the boys are already well aware of the real state of affairs. Some truants have already ripened into criminals and have been sent down to the House of Reformation on criminal complaints; others — the greater number — have not been dealt with at all, because the Parental School was not ready to take care of them.

I have deemed it clearly within the lines of my duty as Superintendent of Public Schools to bestow much time, thought, and effort, during ten years past, in promoting the measures that have led to the establishment of the Parental School. Nor has the time yet come when such work can be laid aside. Indeed, the most critical and interesting part of that work still remains to be done; for the statute creating the Parental School places all its educational functions under the inspection and control of the School Committee; and it may of course be assumed that the School Committee will not be content with perfunctorily certifying the fitness of teachers for appointment, prescribing a course of study, and testing pupils' proficiency in book work; but on the contrary with active interest will watch over the whole operation and influence of the school, and will aid it in every possible way to the best fulfilment of its special purpose. The management of the Parental School, whether good or bad, will have a reflex influence on the day schools of the city. This being so, the duties of the Superintendent of Public Schools in relation to the Parental School are not ended, they have only fairly begun. It may not be out of place, therefore, in this report to offer some remarks upon the relation of the Parental School to the system of public schools, and to point out the principles which should govern the administration of the school, and the commitment of boys to its care.

In the first place, many people must give up thinking that the Parental School is a penal institution, designed to inflict prescribed penalties for truancy

and stubborn disobedience. People who undertake to reform boys on the principle of making hard the way of the transgressor usually fail, because the boys appreciate perfectly well the spirit of such discipline, and simply bide their time, knowing that the season of their tribulation shall have an end, whether they reform or not. The Parental School will undertake the work of reforming boys on another and a better principle — that of intelligent self-control. There is to be no high fence around the institution. How are you going to stop truants from running away, people ask. The answer is, by letting them run away. The boys are going to run away sometimes, but they are not going to run away so much as they would if a high fence were put around them. A truant was never cured of truancy by shutting him up or by flogging him, because such treatment does not generate intelligent self-control.

Secondly, the Parental School is not the proper place for boys who have already taken the first steps in crime, and who have manifested unmistakable tokens of criminal tendency and intent. Such boys are in need of more radical treatment, and are fit subjects for the House of Reformation. But the persistent truant, the naughty boy of the schools, or the disobedient son of despairing parents is not necessarily a criminal, though in imminent danger of becoming one if neglected. Such a boy needs the discipline of the Parental School. This distinction between the criminal boy and the truant boy has generally been recognized in theory, but circumstances hitherto existing in Boston have made the observ-

ance of it in practice impossible. But the Legislature has changed all this, and has emphatically recognized the distinction by enacting that the Parental School shall be established "on the mainland at some place removed from institutions occupied by criminal or vicious persons." The House of Reformation, it is understood, is henceforth to be situated on Rainsford Island. Thus will a wide separation in space mark and emphasize an important distinction in principle.

The significance of this distinction may become clearer when we remember that the two institutions, the House of Reformation and the Parental School, belong respectively to two great but distinct functions of the State, the one penal and the other educational. To be sure, the penal function assimilates itself closely to the educational when it seeks to correct and reform rather than to punish, and the educational function partakes of the coercive character of the penal in the enforcement of the compulsory school-attendance laws through the restraint and discipline of a school for truants ; but the distinction remains, and it is just these two institutions that embody and mark it—the House of Reformation defining the utmost reach of the criminal jurisdiction towards the educational, and the Parental School showing where the educational jurisdiction comes nearest the criminal. The mere circumstance that the law makes it necessary for the educational authorities to apply to the courts in order to remove boys from the control of their natural parents and place them under the control of the Parental School

should not be permitted to obscure or confuse the distinction that exists.

The State, as we know, has undertaken for its own protection to make education universal. To make education universal it must be made free, and it must also be made compulsory. Therefore no system of public education is complete without schools for truants, wherein are used the last resorts of compulsory education. When these fail, and not until then, can children rightly be surrendered by the educational to the criminal jurisdiction of the State.

If these views are correct, it is easy to recognize a vital relation between the Parental School and the other public schools of the city, and this relation lends importance to three other matters which shall be mentioned here.

First, the Parental School being an educational institution free from criminal associations, the courts may feel willing to commit truants to its care at an earlier stage in their career of waywardness than has been usual heretofore; and the truant officers need not hesitate so long to bring complaints. There has always been an apparent unwillingness to send young truants down to Deer Island, there to be associated with criminals. And this unwillingness had good cause, so long as the House of Reformation was the only place where mere truants could be sent. But the consequence has been, in many cases, that all coercive treatment has been delayed until truancy and waywardness ripened into positive criminality. By earlier commitments to the Parental School the first steps in crime will be prevented, and many boys,

it is believed, will be saved from ever being sent to the House of Reformation.

Secondly, it is of the highest importance that the new Parental School be kept altogether free from the taint and traditions of criminality. It is understood that, to this end, the Commissioners of Public Institutions propose not to transfer a single boy now under commitment at Deer Island. The spirit and traditions of the new school are to be purely its own, untainted by any contact with the older institution. It is to be hoped, therefore, that the courts and the truant-officers may act in accordance with this view, and see to it that no boys are committed to the Parental School on complaints for truancy when the real substance of their offending is of a criminal nature.

Thirdly, if possible under existing laws, it would be highly advantageous to apply to all boys committed to the Parental School the principle of the indeterminate sentence. Under this principle all boys would be committed for the full term of two years; which term, however, could be shortened by the boys themselves through good behavior and the manifestation of a right disposition. A system of licenses, whereby boys appearing to have acquired habits of regularity, punctuality, and self-control after six months' residence should be permitted to return to their homes on condition of attending the day schools regularly and behaving well, failure to fulfil this condition to be followed by a revocation of the license, would secure all the benefits of the system of pardons hitherto used, and would be free from its objectionable features. It is possible that the power to

use such a system of licenses now inheres within the general authority vested by the laws in the Commissioners of Public Institutions. If this be not the case, then application should be made to the Legislature for an act to place the authority in proper hands, and to regulate its exercise.

When the name Parental School was first proposed in place of the usual name Truant School, I was disposed to regard the change as an unnecessary manifestation of sentimentality, but I have come to like the name Parental School as happily significant; and perhaps my hopes for the new institution cannot be better summed up than by expressing the desire that it may become in practical operation all that is implied in its name, a truly *parental* school for all boys whose natural parents need the strong arm of the law to help them train up their children in honest and useful ways of living.

This part of my report ought not to be concluded without calling attention again to the need that exists, and has long existed, of

A PARENTAL SCHOOL FOR GIRLS.

It will be remembered that an appropriation of \$25,000 was made not long ago for this purpose, but the money was not used. Another appropriation should be asked for, and used without unnecessary delay. Evidence enough to convince the most sceptical of the need of such a school could be gathered from the principals of girls' schools, and from the truant-officers. Until this need is met, it cannot be said that the educational authorities of this city are

doing their full duty by the wayward and morally exposed girls under their care. Renewed attention is therefore respectfully and urgently called to this matter.

SUPPLIES.

For several years past the schools have been carried on with reduced appropriations, and it has been necessary to practice the most rigid economy. Most of the saving that can be effected without touching salaries is in the items of repairs and supplies. The per capita expenditure for supplies has been brought down to a remarkably low figure; and it may be said, too, speaking generally, that so far as the regular text-books and stationery are concerned, the schools are well enough supplied. But the time has come when it must be said that in respect to occasional supplies, like books for supplementary reading, dictionaries, books of reference, maps, globes, charts, physical apparatus, natural history specimens, etc., the schools show but too well the bad effects of long-continued rigid economy. Excepting the schools of Dorchester and Charlestown, which enjoy the steady income of special funds, the schools generally are suffering for want of these occasional supplies. The wall maps in many schools are worn out with long use and are far behind the times; the globes are few, and the books for reference and supplementary reading far too limited in number for the reasonable wants of the schools. A Boston school principal recently visiting the schools of another city in Massachusetts, and observing how abundantly those

schools were supplied with all useful appliances, was impressed by the contrast with his own school in this respect, and could not but express the wish that the rich city of Boston might be equally liberal with her schools.

Another point in relation to these occasional supplies is that the schools have been very unevenly provided with them. The reason for this may be because some principals are more enterprising than others in procuring supplies for their schools; or it may be that some are more persuasive in their appeals, or are less willing to be denied their requests. It was suggested to one master by me, a few years ago, that he ask for a new supply of wall maps, which his school very much needed. Learning recently that the maps had never been procured, I inquired for the reason, and was told by him that he had made a request, but, as that was denied, he had not cared to renew it. There are some who dislike to make repeated requests, even in matters of business involving no element of personal favor.

Specific illustrations of the unevenness of supplies might be given, but it may suffice to call attention to the matter in general terms. The important point is that, in the course of some years, great inequalities have come to exist, and this state of things seems to call for a remedy.

The thing that now most needs to be done, as it seems to me, is to make a thorough survey of all the books and appliances, other than the regular text-books and stationery, now in the schools; and then, beginning with the schools found to be most poorly

off for such things, gradually and systematically to increase supplies until all the schools shall be brought up to the condition of the most favored ones. Instead of leaving the initiative always with the principals, who, as experience has proved, are not all as enterprising as they ought to be in procuring supplies for their several schools, it would be well if the first steps were taken by the Committee on Supplies, to the end that all the schools be properly provided with all needed books and appliances. Then all teachers should be held to the duty of making a proper use of such things. I am very far from suggesting a return to the lavish expenditures which are said to have characterized the administration of the supply department some years ago, but wish merely to point out that the best interests of education would be promoted by a policy of reasonable liberality uniformly applied.

It is to be hoped, therefore, that the time is not far distant when adequate appropriations may be had for supplies. What has been said here may be taken as an argument for larger appropriations.

SCHOOL SEATS AND DESKS.

Special attention is invited to the results which Dr. Hartwell has carefully worked out from his observations on school furniture and the seating of pupils in the public schools. Attention was sharply drawn to this matter three years ago by Charles L. Scudder, M.D., in a report made by him to the School Committee on "The Seating of Pupils in the

Public Schools." (School Document No. 9, 1892.) The facts disclosed by that report are, to use the mildest word, discreditable. Dr. Hartwell has been giving a large part of his time to the promotion of the necessary reform in the seating of pupils, and he finds the work a large and by no means an easy one. In the first place, there is the indifference of teachers who neglect to use what means they have for suiting the heights of desks and chairs to the stature of children, or who unaccountably persist in the stupid old custom of fitting children to furniture by an intellectual rather than by a physical standard.

Secondly, the great cost of refurnishing all the old buildings with adjustable desks and chairs deters many from seriously considering the matter. Even the partial remedy which might be obtained by redistributing the old furniture would be costly.

Thirdly, in the case of new buildings, although the selection of suitable furniture might have seemed easy enough, the urgent representations of rival manufacturers, each claiming to offer the best school furniture in the market, make the matter of selection by persons who are not experts somewhat embarrassing.

Dr. Hartwell, it will be seen, fails to find in any of the furniture now offered in the market a satisfactory fulfillment of all the hygienic and the mechanical requirements of the problem.

Underlying this whole matter are questions which can be satisfactorily determined only by the impartial investigations of scientific experts. Dr. Hartwell, at two or three places in his report, suggests the

desirableness of a commission for such a purpose, but seems to be looking more to the State than to Boston for the initial action. Boston certainly has large interests at issue in the matter of school furniture; and it appears to me that it would be wise and desirable for the School Committee, without waiting for the State, to create a commission of experts to investigate and report with definite recommendations on the whole matter.

THE TEACHERS' BENEFIT ASSOCIATION.

Among the unsolved practical questions connected with the public school service in large cities is that of making suitable provision for superannuated teachers. Men and women who have spent the prime and strength of their lives in the public school service have claims to consideration which only the most barbarous could deny; and yet as things are now managed, it is often impossible to regard these claims without sacrificing the best interests of the children in the schools. The problem is to devise some practical method whereby teachers who have passed their prime shall receive all merited consideration for long and faithful service, without at the same time impairing the efficiency of instruction in the schools. No one acquainted with our schools will affirm that there is any such method in use now. There are no pensions for those who retire; nor is there any way of giving reduced work and reduced pay, for a while, to teachers whose usefulness, though impaired, is not gone.

Several years ago the School Committee took up this matter seriously, and devised a system of pensions for retiring teachers; but nothing came of it, except that the eyes of many people were opened to the need of some such system. The argument for a pension system does not rest alone or chiefly on the claims that long-tried and faithful public servants have to considerate and merciful treatment, strong as these claims may be : it rests chiefly on the interest which the public has in securing the highest character and efficiency in the public school service. Probably the School Committee could do nothing which would more enhance the dignity, the attractiveness, and the efficiency of the public school service in this city than to put in operation a good system for the gradual retirement and pensioning of teachers. Why should not the management of the public school service be as wise as that of the best colleges and the most successful private corporations? The *professor emeritus* is paid a salary (a reduced salary perhaps), more in consideration of his past than of his present services. Would it not be a wise policy to encourage teachers with the prospect of a like dignified and honorable retirement after long and faithful service? Would not the schools be enough better managed and taught to make it in the long run an economical policy?

In the school system of a great city it should be possible to distribute duties in such a way that less exacting cares may fall to the share of those who, though already worn, are not yet wholly incapacitated for useful service; and if well-managed private

corporations find it for their pecuniary advantage to take good care of aged and enfeebled employees, why will not the city gain by a similar policy, not money indeed, but increased efficiency in the public school service? The difficulties in the way of beneficial action in this matter do not seem insurmountable — would probably sink into insignificance in presence of a hearty determination to overcome them. It may not be unreasonable to hope, therefore, that this vitally important matter may be taken seriously in hand by the leaders in city and State affairs. Boston and Massachusetts should lead the way in placing the public school service on a better basis than it has ever yet stood upon in this country.

So much I have thought it fitting to say by way of preface to a notice of the Boston Teachers' Mutual Benefit Association, an organization that has no official connection with the School Committee, yet one which is doing a work that has a direct bearing on the welfare of the schools. I do not think that this voluntary organization of the teachers answers the needs I have pointed out; but it mitigates the ills that arise from the present irregular and haphazard mode of treating superannuated teachers.

For the information which follows, I am indebted to a member of the Association.

The Boston Teachers' Mutual Benefit Association is based upon a similar organization in New York, the plan of which was brought before some of the teachers of this city in February, 1888, by Miss P. Catherine Bradford, of the Franklin School. In February, 1889, Granville B. Putnam, of the same school,

brought the subject to the attention of the masters. As a result, a joint committee consisting of eight women and eight men was chosen, with authority to prepare a constitution and organize an association. At a meeting of the committee held April 27, 1889, an organization was perfected and a constitution adopted under the laws of Massachusetts.

In aid of the Permanent Fund of the Association, a most successful bazaar was held in Music Hall for the week beginning Dec. 5, 1892. The coöperation of public-spirited citizens, and especially of many of the philanthropic ladies of Boston, was secured, and as a result more than \$56,000 was added to the fund. Success has attended the Association from the beginning. It has a membership of about nine hundred and fifty, and funds amounting to about \$80,000. Most of this is invested in first mortgages in Boston and immediate vicinity. The income from assessments of members is about \$8,000 a year, and from investments nearly \$4,000. The \$12,000 of annual income thus secured is expended in annuities paid to disabled teachers, or those who, having taught for thirty-five years, desire to leave the service. About fifty teachers have thus received annuities amounting to forty per cent of their salaries at the time of resignation.

“But for this beneficent institution many of these teachers would still be in the employ of the city, although unable to do satisfactory work because of ill-health or the infirmities of age. They have now given place to younger and more efficient teachers, and the city secures the benefit, while from the Associa-

tion they receive a comfortable income. Nor is this all. The nearly one thousand members, feeling far less anxiety for the future because of membership, are daily doing better work than they could do if the shadows of coming adversities were ever resting upon them. Prompted by a wise forethought in guarding against their own possible necessities, as well as by a generous impulse to help associates in need, these teachers are banded together in the spirit of common brotherhood, a blessing to such of their number as shall avail themselves of its annuities, and a constant advantage to the schools which they have in charge."

I feel well satisfied that the Benefit Association merits unqualified commendation, and that all teachers eligible to membership would do well to join it.

It is to be hoped, moreover, that all friends of the public schools, from a knowledge of its plans and purposes, will manifest a generous appreciation of its endeavors, and will be disposed to increase as far as possible its means for good, since with increasing years there must be augmented demands upon its treasury.

From the larger cities in other States letters come to me not infrequently asking for information about this organization, and it is probable that the foregoing paragraphs may lead to further inquiries, for which reason a list of the officers is here printed:

BOSTON TEACHERS' MUTUAL BENEFIT
ASSOCIATION.

OFFICERS FOR THE YEAR 1895.

President. — GRANVILLE B. PUTNAM, Franklin School.

Vice-Presidents. — CHARLES W. HILL, Bowditch School.

HARRIET E. CARYL, Girls' High School.

Recording Secretary. — JULIA F. BAKER, Mather School.

Financial Secretary. — EDWIN T. HORNE, Prescott School.

Treasurer. — ORLANDO W. DIMICK, Wells School.

Directors.

MARY D. DAY, Emerson School.

HENRY F. SEARS, Bunker Hill School.

ELLEN C. SAWTELLE, Hancock School.

MARY F. BIGELOW, Horace Mann School.

P. CATHERINE BRADFORD, Franklin School.

THOMAS H. BARNES, Gaston School.

EMILY F. CARPENTER, Martin School.

CHARLOTTE ADAMS, Bennett School.

HENRY B. MINER, Edward Everett School.

GEORGE W. ROLLINS, Latin School.

THE MEDICAL VISITORS.

Only favorable reports have come to me concerning the operation of the plan by which the Board of Health has been carrying on a system of daily visits in all the schools by competent and disinterested medical men. The Board of Health appears to have been highly fortunate in the character of the professional men it has secured for the work. Some of the best medical talent in the city has been engaged in this service. The medical

visitors do not undertake to give professional treatment in any case. They examine all children thought by their teachers to be ailing, and point out the need of professional treatment in all cases in which the need exists. The treatment itself must be received from the family physician or in the hospitals or in the dispensaries.

Some idea of the extent and importance of the work may be gathered from the following statistics which have been kindly furnished me by Dr. Samuel H. Durgin, Chairman of the Boston Board of Health.

The total number of children examined during the four months ending February 28, 1895, was 9,063, of whom 5,825 were found to be sick, and 3,238 were found not to be sick. The number found sick enough to be sent home was 1,033; of these 280 were suffering from contagious diseases, as follows: Diphtheria, 58; scarlet fever, 19; measles, 42; whooping cough, 17; mumps, 35; pediculosis, 47; scabies, 33; congenital syphilis, 7; chicken-pox, 22. These children were in their seats spreading contagious diseases amongst other children. The number of children who were saved from these diseases by the timely discovery and isolation of the sick children, is of course beyond computation.

The other diseases discovered and for which the necessity for treatment was pointed out, were as follows: Abscess, 22; catarrh, 244; cellulitis, 12; chorea, 11; colds, with more or less bronchitis, 224; debility, 63; diseases of the eye,

389; diseases of the ear, 35; diseases of the skin and scalp, 186; diseases of the throat and mouth, 3,489; epilepsy, 5; fracture of collar bone, 1; headache, 171; indigestion, 42; malaria, 17; nausea, 50; Potts' disease, 3; swollen glands, 133; ulcers, 16; wounds, 21; miscellaneous diseases, 411; examined for vaccination, 117.

The summary statement is as follows:

Total number examined	9,063
Found to be sick	5,825
Found not to be sick	3,238
	<hr/>
	9,063
Number found sick enough to be sent home .	1,033
Number found well enough to remain in school	4,792
	<hr/>
	5,825

I believe that the importance of this work of medical visitation thus successfully begun can hardly be overestimated. So far as I know, Boston is the only city in this country where work of this kind has been undertaken. It is to be hoped that the efforts of the Board of Health may be heartily sustained by the School Board and by the general public.

CONCLUSION.

This report and the reports printed in the Supplement contain many matters which may invite the

consideration of the School Committee. As there is no standing rule relative to the disposition of the Superintendent's report, I respectfully ask that it be referred to a special committee to consider and report upon such of its recommendations as may be thought worthy of adoption.

Respectfully submitted,

EDWIN P. SEAVER,

Superintendent of Public Schools.

SUPPLEMENT.

REPORT OF ELLIS PETERSON, SUPERVISOR.

To the Superintendent of Public Schools :

DEAR SIR: In accordance with your direction, given on Jan. 26, 1895, I submit a "general report" of my work of examination and supervision from Sept. 1, 1894:

SYNOPSIS OF THE WORK.

In brief, my work has included:

1. The reading and marking of a part of the papers written by the candidates for certificates who attended the teachers' examination held in the vacation, on Aug. 28, 29, and 30, 1894.

2. The preparation for and general oversight of the examination for admission to the Evening High School and its branches, and, in the same school and its branches, the examination of candidates for certificates of proficiency and diplomas of graduation.

3. The observation of and the writing of reports on teachers who had been appointed on probation.

4. The supervision of the Horace Mann School for the Deaf; of the Evening High School and its branches; of the two Latin schools; of the eight day high schools—all except the Mechanic Arts High School; and of the grammar, primary, kindergarten, cookery, and wood-working schools in the Agassiz, Bowditch, Charles Summer, Robert G. Shaw, George Putnam, and Prince Districts.

5. Beside this regular work and the attendance upon the many meetings of the Board of Supervisors, there has been much work that is miscellaneous, incidental, and private.

EXAMINATION OF CANDIDATES FOR CERTIFICATES OF
QUALIFICATION.

Although the teachers' examination was held in August, most of the work of marking the candidates' papers and of granting or of refusing to grant certificates of qualification, was done after the school-year began. The following table gives the results of the examination :

GENERAL EXAMINATION OF CANDIDATES FOR CERTIFICATES
OF QUALIFICATION TO TEACH IN THE BOSTON PUBLIC
SCHOOLS, AUGUST, 1894.

CERTIFICATES.	Whole number of candidates.	Number who withdrew from the examination.	Number to whom certificates were not granted.	Number to whom certificates were granted.	Number who, having been refused certificates for which they had applied, were granted lower certificates.	Whole number to whom certificates were granted.
High School, Class A.	37	2	8*	27	6	33
High School, Class B.	25	.....	9*	16	1	17
Grammar School, Class A	14	.....	3*	11	2	13
Grammar School, Class B	40	2	10*	28	.....	28
Kindergarten	11	.....	2	9	.....	9
Wood-working	9	1	2	6	.....	6
Phonography	1	.....	.....	1	.....	1
Penmanship	3	.....	.....	3	.....	3
Cookery	4	.....	.....	4	.....	4
Sewing	6	.....	3	3	.....	3
Drawing	17	1	4	12	.....	12
French and German ..	12	.....	5	7	.....	7
English to foreigners..	3	.....	.....	3	.....	3
Total	182	6	46	130	9	139

* One of the eight high-school, class A, candidates, eight of the nine high-school, class B, candidates, one of the three grammar-school, class A, candidates, and one of the ten grammar-school, class B, candidates, to whom certificates were not granted, were credited with such examinations as were either excellent or good.

THE NEW SUPPLY OF CERTIFICATED TEACHERS.

In order to determine the new supply of certificated teachers for the school year 1895-1896, it is necessary to add to the one hundred and thirty-nine who were certificated after passing the August examination: (1) the seventy who were graduated from the Boston Normal School in June, 1894; and (2) the nine who were specially examined at different times from Sept. 1, 1894, to March 1, 1895. The total new supply of certificated teachers to March 1, 1895, was, therefore, two hundred and eighteen. Of the seventy graduates from the Normal School, twelve received kindergarten and primary-school certificates, and fifty-eight primary- and grammar-school certificates. To the nine specially examined since September 1, certificates were issued, as follows: One to the instructor in military drill, one to the head-master of the Mechanic Arts High School, one to the teacher of the theory and practice of the kindergarten in the Normal School, one to the teacher of physical and vocal culture in the Girls' Latin School and in the East Boston High School, one to a teacher of English to Armenians, one to an instructor in forging, one grammar-school certificate of qualification, class B, and two grammar-school certificates of service, class B.

THE DEMAND FOR PERMANENT AND SUBSTITUTE TEACHERS.

The supply of teachers for permanent service included not only the two hundred and eighteen who have been certificated since June, 1894, but also many who had been previously certificated. Except in a few special cases, this supply of available candidates for permanent service has been large enough to meet the demand; indeed, there has been an over-supply of teachers ready for permanent high-school service. On the other hand, there seems to have been too small a supply of substitute teachers — so small at times that principals have been driven to employ uncertificated teachers, or to impose too much work and responsibility on some teachers, or

to dismiss classes. So great appeared the demand for substitutes in primary and grammar schools that the Committee on Examinations ordered an examination of candidates for the grammar-school certificate, class B. The examination was held on March 1 and 2, and was attended by sixty-five candidates. To forty-five of these, the Board of Supervisors has granted certificates; but only twenty-four of the forty-five are available for substitute service.

HOW TO MAKE AVAILABLE AND TO INCREASE THE SUPPLY OF SUBSTITUTES.

During the last twenty years, and, probably, during a much longer time, the employment or assignment of substitutes has been left to no one in particular. Of course, what is everybody's business is nobody's. A member of the School Committee, the superintendent, a supervisor, the principal of the Normal School, and any one of the sixty other principals, and even an assistant teacher expecting to be absent, have given a hand to this work. Sometimes substitutes have been found easily, and, at other times, after a long and arduous search; or the attempt to find them has been made in vain.

The brunt of this work has, of course, fallen on the principals; and it would have been much greater had there not been a limited supply of substitutes among the post-graduate pupils of the Normal School. Some of the unemployed graduates who do not return there, and other available candidates for substitute service, are scattered in and around Boston. To-day, a substitute is at work; to-morrow, she will have no work, although several principals may need her services, and they may spend hours in search of some one to do the work that she is able and anxious to do. This unsystematic and accidental way of employing substitutes results not only in a prodigious waste of time and effort, but also in supplying some substitutes that are poorly adapted to the work they are to do. One substitute, skilful in governing a primary class, is employed in the upper class of a grammar school where she

must fight her way to victory, or be ignominiously defeated. Another, who likes and can govern girls, teaches in a school for boys, who instinctively measure her calibre and override her commands.

All these considerations lead to one conclusion, viz.: that the power of employing or assigning substitutes should be concentrated. Instead of a hundred centres of supply, there should be but one, and that should be the superintendent's office. The whole power should be placed in his hands. With the constant assistance of a clerk specially qualified for the work, and of the several supervisors, he could by enforcing the present regulations, slightly modified, daily learn what substitutes are immediately available; what their special qualifications and limitations are; when the supply is sufficient; when it is diminishing or is nearly exhausted; and what should be done to increase it. Knowing what the supply is in degree and kind, he could promptly send suitable substitutes where they are needed, could thus save the time of principals for their appropriate duties, and could lessen the pupils' loss to which the absence of their regular teacher subjects them.

But, whatever is done to make available the supply of substitutes, there are indications that the supply should be made greater: (1) the number of teachers employed by the city is gradually increasing; (2) more teachers than formerly are granted a year's or a half-year's absence; and (3) increasing pedagogical and social demands upon teachers are exhausting their nervous energy and causing more and more of them to be added to the sick list.

The following are some of the ways by which the supply of substitutes may be increased:

1. Instead of allowing only such inexperienced teachers to attend the certificate examination as are graduates of the Boston Normal School or of one of the State normal schools, the doors might be opened wide to graduates of normal schools in other States than Massachusetts, provided their

course of study is as extended and their standard of graduation as high as in the normal schools of this State.

2. In times of emergency, when sickness prevails among the regular teachers and schools are suddenly deprived of some of them, second-year pupils of the Boston Normal School might be allowed to substitute in those districts where and while they are under training in the practical work of teaching and governing a school.

3. In place of the one stated examination of candidates for certificates held each August, there might be several examinations during the school year, according to the needs of the schools, — at least one examination each year for high-school teachers; a second, at another time, for grammar and primary school teachers; a third, at a different time, for teachers of kindergartens; and a fourth, at another time, for teachers of cookery, sewing, wood-working, and other specialties.

At the general examination held in the summer vacation, there come together candidates for each kind of certificate, general and special. The examination is a burdensome and cumbrous undertaking, and does not satisfactorily meet the needs of the schools or of the candidates. Some teachers are kept away from the examination by vacation engagements; others have formed their plans for the coming school year, and, therefore, stay away; and others are kept by the sweltering heat from taking the risk of passing the examination which, under the most favorable physical conditions, they would dread. The last March examination for grammar and primary teachers, although unexpected and not much advertised, was attended by sixty-five candidates; while the last summer's examination for the same grade of teachers, although expected and advertised far and wide, was attended by only forty teachers. This fact seems to show the desirability of changing the time of holding the teachers' examination.

REFORM IN EXAMINATIONS FOR TEACHERS' CERTIFICATES.

Whether or not the moral character of candidates for teachers' certificates is good and their health sound must be largely determined from the evidence of trustworthy persons who have known them. From personal interviews with the candidates something may be inferred with regard to their morals and physical soundness; but such evidence is likely to be superficial and incomplete. In the future, as in the past, the chief dependence for trustworthy evidence of health and moral character must be furnished by others.

When, however, the question is whether the teachers possess good scholarship, intellectual power and vigor, and professional skill, it is affirmed with a high degree of confidence that the evidence gathered from carefully prepared and rightly conducted oral and written examinations, furnishes a sufficiently trustworthy basis for a sound judgment. It is true that a teacher who passes in all respects an excellent examination and who has been successful elsewhere, is very likely to be a successful teacher in Boston. But it is also true that an accomplished scholar may be an unskilful teacher and that a skilful teacher may be hardly more than a passable scholar. Of course, it is highly desirable to secure teachers that possess both excellent scholarship and great skill in teaching.

The Board of Supervisors has for nineteen years examined candidates for teachers' certificates in such a way as to test their scholarship, their mental ability, and, at least, their knowledge of the principles that underlie skilful and successful teaching and governing. In testing scholarship and mental ability, candidates have been examined in subjects which they are to teach, and, at least, in standard high-school studies. In addition to these subjects, candidates for the higher certificates have been examined in some one subject to which they have given special study or in which they believe themselves to be proficient.

By means of these examinations, many ignorant teachers have been kept from the Boston schools, and many of the best scholars and most successful teachers have been added to our corps of instructors. But it has been affirmed that Boston has lost the services of some of the best teachers and scholars, because they would not subject themselves to the chances of not passing the examination in elementary subjects — subjects which they studied years ago and studied thoroughly, but which were only stepping stones to broader or higher studies. There is, probably, some truth in this assertion; at least, it serves to emphasize the need of one reform in the examination of candidates for teachers' certificates, — a reform that the elective system of studies in high schools and colleges seems to demand. The substance of this reform is that a larger choice of subjects of examination should be given to candidates; that the examination should be confined to fewer subjects; that depth rather than extent of scholarship should be demanded.

It is plain that this kind of examination would keep the ignorant teacher from the service; would give a fair chance to the teacher whose scholarship is respectable; and would offer to the special student the opportunity of showing his excellence. It would also test a candidate's intellectual power and vigor; for one's power of treating a subject thoroughly, of reasoning conclusively, of adapting means to ends, of originating or skilfully using devices and of making the best of circumstances and conditions, can be tested, not by examining him upon subjects of which he is comparatively ignorant, but by examining him upon a subject with which his studies and his teaching have made him thoroughly familiar.

There is, too, another reform in the examination of teachers that is imperatively demanded. The most important qualifications of a teacher cannot be justly measured at the ordinary examination, viz.: his skill in teaching and governing; his moral power; his "disposition"; the unconscious influence that his character, manners, and life exert upon his

pupils. These qualifications may be mentioned in certificates; but they must be observed in order to be appreciated. In Boston, however, there is no good opportunity of observing them till the examination is over and the certificate granted. If practicable, the candidate for a teacher's certificate should be observed at his work in the school-room; or, at least, he should have the opportunity of giving a demonstration lesson before a class in Boston, and under the observation of a supervisor. The evidence thus gathered should have great weight; indeed, when the Board of Supervisors has been convinced from personal observation and investigation that a teacher deserves a certificate, the remainder of the examination may be justly regarded as formal and confirmatory.

THE EVENING HIGH SCHOOL.

Of the schools which it has been my duty to supervise, none — except the Horace Mann School for the Deaf — is more interesting or progressive or useful than the Evening High School. It has become an institution of solid worth; nor is it soon to reach the limit of its growth or the bounds of its beneficence.

In the latter part of September, the first week or two of October, and the first week of January, examinations for admission were held in reading, dictation, composition, geography, and arithmetic. Nine hundred and twenty-seven candidates for admission were examined at the central school and its two branches, and about three-fourths of these were admitted. Graduates from the evening elementary schools and from the day grammar, high, and Latin schools, and teachers of the public schools were admitted without examination. The total number of pupils in the school and its branches was two thousand nine hundred and sixty-five, and the whole number of teachers was thirty-eight.

This year important changes have been made in the courses of instruction and new courses have been tried. The standard in arithmetic has been raised and more study given to

what is commonly styled commercial arithmetic. Physics has been studied in this school for the first time, and it has been found practicable for the class to use the physical laboratory of the English High School. The first course was studied enthusiastically and completed, and next year the second course will be pursued — the two courses to include as much as is done in physics by the senior classes of the day high schools. Chemistry will be offered as a study next year. The study of American literature was added to the English course and was pursued with interest and vigor; and it is hoped that next year the course in English literature will be divided into two courses — one for the study of the earlier English authors, and the other for the study of the later. In the French and German languages, the standard of scholarship was decidedly raised and the study of French and German literature was hopefully begun. The experiments that have been thus successfully tried will probably enable the Board of Supervisors to complete the revision of the Evening High School course of study before the opening of the school on September 30.

Near the close of the term, examinations with questions prepared by the supervisors and adopted by the Board of Supervisors, were held for the purpose of determining whether or not applicants for certificates of proficiency should receive them. No pupil was required to take the examinations. One thousand and fourteen papers were written in answer to questions in twenty different studies. The papers and the year's work were marked and these marks, with the head-master's recommendations, were presented to the Committee on Examinations, who decided which of the candidates should receive certificates. Six hundred and eighty certificates were granted, as follows: 110, in English composition; 43, in rhetoric; 27, in American literature; 14, in English literature; 10, in the German language; 8, in German literature; 7, in the French language; 5, in French literature; 4, in Cæsar; 4, in Vergil; 18, in history and civil govern-

ment; 66, in penmanship; 26, in phonography; 95, in elementary book-keeping by double entry; 53, in advanced book-keeping; 150, in arithmetic; 17, in algebra; 6, in plane geometry; 8, in physics; and 9, in physiology. Diplomas were awarded to three pupils, viz.: Anna F. Mace, Augusta S. Plaisted, and Alexander J. McIntosh.

THE DAY HIGH SCHOOLS AND LATIN SCHOOLS.

The courses of study for the Latin and high schools have not been lately changed, except in two or three respects. In the Girls' Latin School, the choice between Greek and German is now allowed to pupils of the third class. Of the fifty-three pupils in that class, thirty-three elected Greek, and twenty German. When it is considered that these twenty pupils may, two or three years hence, enter college from a classical school without a knowledge of Greek, those of us who are so antiquated as to believe that the best classical training and culture are the result of studying Greek language, literature, and life, may be easily reconciled to the inevitable by observing the enthusiastic study that these girls give to German and by recognizing the fact that they will acquire not only a reading knowledge of the language, but also the ability to write and speak it correctly and to study and appreciate some of its great masterpieces.

Nor has the Boys' Latin School escaped the influence of the growing demand for more study of modern languages. For the second time, some boys of the graduating class have been allowed to begin German instead of continuing the study of Latin. This experiment, the trial of which the Committee on High Schools permitted, has proved that senior pupils may, in a single year, acquire a respectable knowledge of German grammar and a reading knowledge of the language. If German is to be an elective study in the first class, this change in the course of study — made contrary to the regulations — should be authorized by the School Board.

In the English High School the exercise in singing was suspended by authority of the School Committee. The changing and ugly voices of some boys and the vain attempt to make the voices of a few singing one part blend with and be equal in volume to the voices of many singing a different part, seemed to present an insuperable obstacle to success in this exercise. A girls' school or a boys' and girls' school does not meet the same difficulty. The time saved by omitting the singing exercise in the English High School has been given to the department of mathematics. As other departments of study need additional time, fairness to all concerned demands a reconsideration of the subject. But in the first place it should be decided, with the help of experts in music, whether or not high-school boys are, vocally, in such a condition as to make it inexpedient to require them to sing. It may be found desirable to offer an alternative study, so as to give pupils who cannot or should not sing, an opportunity of spending the "singing period" in some other exercise.

One serious omission in two of the high schools is physical training for the girls. As soon as practicable, these pupils should have what the course of study prescribes.

There is a growing desire to make the connection between high schools and colleges closer than it has been; and some progress in that direction has already been made. In history, mathematics, physics, German, French, and Latin, the Boston High Schools are, with some slight changes in the course of study or in college requirements, able and ready to prepare pupils for college. In chemistry the college admission requirements might be greatly improved by conforming to the excellent course now pursued by pupils during the third and fourth years in the high schools. In English, too, the college demands could be easily met, were a logical and systematic course of study asked for by the New England colleges. At present the authors to be read are miscellaneous; not arranged in any order, unless it be disorder; and not adapted to any *course* of instruction. If for each of the four years of

the high-school course, the reading of some authors or productions suited to the age and progress of the class were asked for, and if the colleges demanded an admission examination on these authors or productions, there is no doubt that the Boston high schools could meet the requirements in English; and if four other courses, parallel to the first, were laid out for the examination in the four subsequent years and the five courses were repeated in the same order, not only would a desirable variety of authors be studied, but the expense for books would be greatly diminished.

GRAMMAR, PRIMARY, KINDERGARTEN, AND SPECIAL SCHOOLS.

As the other supervisors will probably report to you upon the important subjects that concern the grammar, primary, kindergarten, and special schools, I will close my report already too long.

Respectfully submitted,

ELLIS PETERSON,

Supervisor.

REPORT OF ROBERT C. METCALF, SUPERVISOR.

To the Superintendent of Public Schools :

DEAR SIR: Your official letter of instructions, dated Jan. 26, 1895, requested each supervisor, on March 1, to make a report which should contain "a statement of the work done, doing, and to be done by him during the current school year, — from September to June." In accordance with this request, I beg leave to submit the following report:

The geographical division assigned to me Sept. 1, 1895, included the following school districts: Dearborn, Lewis, Dillaway, Dudley, Comins, Martin, Sherwin, Hyde, Everett, Dwight, Franklin, and Brimmer. These districts include, besides the grammar and primary schools, fourteen kindergartens, three school-kitchens, and three wood-working rooms. The number of teachers under my supervision is three hundred, not including those employed in the evening schools. The four evening schools assigned to me are the Dearborn, Sherwin, Comins, and Warrenton Street, employing over thirty teachers.

My plan of work for this school year includes :

(1.) Special attention to the schools in my geographical division.

(2.) A careful study of the subject of supplementary reading, to the end that its quality may be improved and its usefulness increased.

(3.) Familiar talks to the teachers in other parts of the city on the ways and means of improving the language-work.

The primary schools assigned to me have all been visited and the work of the teachers inspected as carefully as time would permit. I have been familiar with most of these schools for

four years. With very few exceptions the teachers are doing good work and their schools are an honor to the city. Those whose work is not entirely satisfactory show an excellent spirit and a determination to improve.

All the classes in a school district are under the immediate control and supervision of a principal. To him each teacher is responsible for her work, and must look to him for help in times of need. Primary school work and methods should be as familiar to him as the work and methods of grammar schools. He should be able not only to appreciate good work in the lower grades, but to point out and illustrate the best methods by which good work may be done. Many a good teacher in the service owes her success to the careful training which she received at the hands of the principal at some critical time in her experience. It is not sufficient to select the best candidates to be had, and then leave them to their own resources. Teachers, whether young or old, have a right to careful oversight and wise direction; and such oversight and direction must come mainly from the principal of the school.

With three hundred teachers under the general inspection of one supervisor, no teacher can receive the special attention from him that may be needed. It is for this reason, in part, that principals have been released from the obligation to teach ten hours per week in their first classes.

READING IN THE GRAMMAR SCHOOLS.

In the grammar schools under my supervision I have given special attention thus far this year to the matter of reading. For this purpose I have spent an average of forty-five minutes in each room. Of course I have not been able to hear every pupil read, but I have selected at random those who did read, and have required the rest of the class to listen and to reproduce in their own words the substance of what had been read to them. I have thus been able to judge whether pupils have been trained *to listen* as well as *to read*. I have also been able to ascertain whether pupils can use English cor-

rectly under favorable circumstances. This examination has likewise tested the fitness of the books that are furnished for supplementary reading.

In general the reading is good. An exception must be made, however, in most grammar schools, of the fifth and sixth classes. As the reading in the highest primary classes is almost uniformly good, and in the lowest grammar classes almost uniformly poor, I am led to think that the transition from the primary reading matter to that used in the grammar schools is too abrupt. It is impossible to account for the falling off in ability to read in any other way.

We need more easy reading as the step is taken from the primary to the grammar grades. It should be reading that is of great interest to pupils of this age. Nature readers and thinly disguised geographies and histories, used as supplementary reading, are not of sufficient interest to carry the child over this transition period. He craves a story,—it may be fable or folk-story or a fairy tale, but it should be something that will arouse the attention and stimulate the mind sufficiently to enable him to overcome the difficulties that beset him in every reading lesson. The Advanced Third Franklin Reader, assigned to the lowest grammar grade, is too difficult for pupils just leaving the primary school, though well adapted for use during the last half of the first year in this grade. To meet this difficulty I recommend that some suitable reading book be added to the list of text-books for use in the sixth class in the grammar schools.

Our school readers are not well graded, and the selections in some of them are not such as will interest the children. There is very little use for readers above the first five or six grades, and those used in any grade should furnish abundant entertainment and mental stimulus to the pupils. The selections should have real literary merit, they should be carefully graded, and they should be full of interest. Every school reader should also contain exercises and selections that may be used by the teachers in training the voices of

their pupils, as well as their powers of expression. Readers of the kind described can be had only by selecting the best from each of several series. No one series, so far as I have examined, answers all the requirements of our schools.

SUPPLEMENTARY READING IN THE PRIMARY SCHOOLS.

At present the schools in the lowest primary grade are supplied with three First Readers, viz.: The Franklin Primer and First Reader, Parker and Marvel's First Reader, and The Modern Series. A few schools in this grade may have small sets of some other book. A few years ago these three or four sets of readers satisfied the wants of most of the schools. But as teachers have become more skilful in teaching reading, the demand for additional reading matter in this grade has become more and more imperative. In many schools the supply is exhausted before the middle of the year, and the teachers are frequently compelled to reread an old book, though parts of it may be so familiar to some of the pupils that they can recite the lessons verbatim without seeing the printed page. Other teachers borrow books from the second classes in the same building and so eke out their meagre supply. It is not uncommon for a class of "first-year" children to read the whole of seven or eight Primers and First Readers, and a few teachers report that they have completed a dozen. In many cases these extra readers are purchased by the teachers and loaned to the children, because the supply allowed under the rules is not sufficient.

The pupils in this grade are taught in groups seldom numbering more than ten or twelve. A set of fifteen books would, therefore, be large enough. I would recommend that the lowest primary grade be supplied with Primers and First Readers in sets of fifteen, and that the number of sets to be supplied to any one grade shall be determined by the actual need of the classes in that grade. Whenever, in one building, there are two or more classes in this grade, the books

can be used in common, and it will not be necessary to duplicate the sets.

In the first and second primary classes the pupils are usually taught in two groups. Certainly they should never be taught in less than two groups. The sets of readers used in these classes must, therefore, contain about thirty books. There is very little so-called permanent supplementary reading used in these grades. The main reliance is upon that which is sent from school to school on the first day of each month. For this purpose the books are arranged in boxes containing about thirty each, every primary school building being entitled to a box for each grade above the lowest.

Each set of books, therefore, is used by the pupils in ten different schools during the year, and it is often used on the same day by the pupils of several different classes. The condition of many of these books at the end of the year may be better imagined than described. They are torn, defaced, and filthy. Many teachers supply themselves with new fresh copies for their own use, but are unable to treat the children with the same consideration. Some teachers cover these books when new covers are needed, while others send them along to the next school in a discreditable condition. All these books are brought back to the central office during the summer vacation, and are carefully examined, those too poor for use thrown out, new copies bought, and all neatly covered.

By this plan a very large number of books can be supplied to each school at small expense, and when the plan was inaugurated there seemed to be no better way. But it is now time that some better plan should be devised. The wear and tear incident to the transportation of these books, and, above all, their condition, which makes so many of them a constant menace to the health of the pupils, renders the adoption of some better plan of supplying reading matter to the schools a positive necessity. Under the present circulating plan, each primary class above the lowest grade is furnished with eleven different sets of books, viz.: one text-book, and ten sets

of readers one grade lower than the text-books. Any plan that may be adopted should furnish at least as much reading matter. The ability to read intelligently, which lies at the foundation of an education, comes from much practice under skilful guidance; and while in the higher grammar grades many choice extracts may be read and reread by the pupils with great benefit, such repetition is not profitable in the primary grades. Here we need skill in recognizing words, as well as facility in gathering the thought of an author, and for this purpose a considerable variety of books is needed.

I recommend, therefore, that ten sets of thirty books each, selected from authorized lists, be supplied to each grade above the lowest in every primary school, — these books to remain permanently in the buildings to which they are sent. Although under this plan the cost for the first year would be increased, yet the actual difference to the city would be only the interest on this first cost. To offset this there would be greater care taken of the books, and also a considerable saving in the wear and tear incident to their transportation from house to house. Should the first cost prove too great to warrant the adoption of the plan throughout the city, it would be quite feasible to make supplementary books permanent in the outlying and more scattered districts, and to continue the circulating plan in the city proper for a year or two longer.

SUPPLEMENTARY READING IN THE GRAMMAR SCHOOLS.

In the grammar schools the change from circulating to permanent reading could be made with very little expense. Here it is not so necessary that every pupil should have a book during the reading exercise. It is quite as important to train children to hear as to see. Considerable time, therefore, should be given in these schools to exercises in which a few pupils read to the rest of the class, who in turn reproduce in their own words the substance of what has been read. Pupils are thus trained to give close attention, — an accom-

plishment of great value to them in all school exercises where teachers give instruction to a whole class at the same time. For such training, a set of fifteen books is sufficient, of greater value, in fact, than one containing thirty or sixty books. These books may be read, in part, at home by allowing a limited number of pupils to use them one evening each week. This home-reading, however, should be followed by a class exercise to test the thoroughness with which the book has been read.

I would recommend, therefore, that the supplementary reading books in the grammar schools be supplied in permanent sets of fifteen or thirty as desired by the principals of the schools, and that six sets of fifteen, or three sets of thirty be supplied to each grammar school in the city.

By the present plan each grammar school receives during the year, besides the regular text-book in reading, nine sets of thirty books each. Under the plan proposed, each school would receive but six sets of fifteen books, or three sets of thirty books; but this diminution in supply would be only temporary, and would be offset, to a considerable degree, by giving each principal his choice of books (from a prescribed list). By careful choosing, the books selected may be read by the pupils of two or three grades, and an abundance of reading secured at small cost. The sets now in circulation are sufficient in number to supply every school in the city; but as some of the books are unsuitable, there would be a call for a small outlay. Many principals have already indicated a willingness to make the change, and to accept six sets of fifteen books, or three sets of thirty, for a year's supply, if they may be allowed to choose the books that they consider suitable for their classes. A few books should be added yearly to the supply in each school until its needs are met.

I recommend that this change be made at the beginning of the next school year, and that the principals of the grammar schools be requested to make their selections from the authorized lists. These lists contain many books that will

lead the children directly to the best literature. When used under the direction of a wise, cultivated, and skilful teacher, pupils take a deep interest in the finished products of some of the best minds the world has produced. Their interest deepens as they become more familiar with the characters introduced. The brief extract contained in an ordinary school reader hardly serves to catch the interest of the child, much more to hold it until a deep impression is made. Moreover, the characters themselves are developed slowly, and the impression made from a brief reading is likely to be false or, at least, imperfect. A work of art needs to be seen or heard as a whole in order to gain the full significance of the author's thought. A piece of literature is a work of art, and should be presented to children in as complete a form as possible. It should be read, and possibly some parts of it should be committed to memory. Difficulties may be explained, beauties pointed out, hidden meanings brought to light, but the study should not be so extended as to weary the child and abate his interest. Let the study stop when the child's interest has been thoroughly aroused, and a desire created to finish the work.

While the reading of literature may be begun in the school-room, it certainly should not end there. The book begun with the teacher should be read in the home. An occasional class exercise which shall test the thoroughness with which the book has been read, or which shall furnish opportunity to the teacher for suggestions by way of caution against superficial work, or concerning collateral reading, may be of great service to the readers. It should be remembered that a book read at home is likely to secure the interest of the parent, and, possibly, to increase the child's stock of books which he may call his own.

COLLATERAL SUPPLEMENTARY READING.

The present permanent supply of supplementary reading in the grammar schools is, for the most part, collateral with the

various school studies. There are twenty or more titles of such books approved by the committee, and many copies are now in use. The titles are as follows:

“Seven Little Sisters,” “Each and All,” “Hooker’s Child’s Book of Nature,” “Our World, No. 1,” “Poetry for Children,” “Stories of American History,” “Guyot’s Introduction,” “Scribner’s Geographical Reader,” “Robinson Crusoe,” “The Wonder Book,” “Tanglewood Tales,” “Readings from Nature’s Book,” “American Poems,” “Selections from American Authors,” “Early England,” “Green’s Readings from English History,” “Phillips’ Historical Readers, Nos. 1, 2, 3, 4,” “Geikie’s Elements of Physical Geography,” “Fry’s Brooks and Brook Basins,” “Wood’s Natural History Readers, Nos. 3, 4, 5, 6,” “Eggleston’s First Book in American History,” “Jackson’s Manual of Astronomical Geography,” “Six Stories from Arabian Nights,” “King’s Geographical Readers.”

Of these titles, “Readings from Nature’s Book” may be dropped as there is but one set in use, that being in the Everett School. The following titles should be transferred to the list of reading books, as they are not properly collateral reading: “Robinson Crusoe,” “The Wonder Book,” “Tanglewood Tales,” “Poetry for Children,” “American Poems,” and “Selections from American Authors.”

On the other hand, in the list of reading books there are three titles, viz.: “Fairy Land of Science,” “Overhead,” and “Wright’s Nature Readers” that should be transferred to the list of collateral books.

Most of this collateral supplementary reading is very good, but it should be carefully inspected before the opening of the next school year. To this end each principal should report to the superintendent the titles of all such books in his school, the number of each kind, and the condition of the books.

TEACHERS' MEETINGS.

The third part of my plan comprises "familiar talks to teachers in parts of the city outside my own geographical division." In pursuance of this work I have held grade meetings in East Boston, at the South End, and at the North and West Ends. Each of these three courses, now completed, consisted of some ten or twelve lessons. The meetings have been held after the close of the afternoon session. The East Boston meetings were held at the Lyman School-house on successive Mondays, the South End meetings at the Franklin on Tuesdays, and the North and West End meetings at the Hancock or Wells on Wednesdays.

I have thus been enabled to present to the teachers, in a familiar way, every phase of the language work, to describe the best methods illustrated in the class-rooms which I have visited, and to suggest ways and means by which teachers may improve their work. Illustrative lessons have been given in some sections by teachers of the lowest primary grades, such lessons furnishing topics for discussion in the teachers' meeting which immediately followed. In these meetings I have encouraged the freest expression of individual opinion on the part of the teachers, concerning the required work of the schools. The difficulties and trials of the class-room and the best way of meeting them have been freely discussed to the end that the most satisfactory results may be reached with the most economical expenditure of the teacher's time and strength.

Some of the principals have found time to attend the meetings, and have given a decided impetus to the work by their hearty approval of the plans proposed. Special efforts to improve the methods employed in the schools are of little value unless followed up by daily inspection and generous recognition of improvement by those having the schools in charge. Whether these meetings have been helpful to teachers or not, I am sure that the supervisor has received great benefit from

being brought into closer relations with the teachers, under circumstances which have given them the utmost freedom of expression concerning their work. Similar meetings will be held in Dorchester and Brighton before the end of the year.

EVENING SCHOOLS.

The work done in the evening schools during the past winter has not varied much from that of previous seasons. The attendance has been good, and the work of the teachers has been fully up to the standard of other years.

In some of these schools we find a class of young boys who take little interest in real work, but are enrolled at the request of their parents, and come when nothing more pressing demands their attention. If the weather is fine and the skating or coasting good, most of the class are quite likely to be absent. If conditions for recreation are not favorable, many of the boys will wait on the corners of the streets until about eight o'clock, and then rush into school as though they had just come from a fire. What such pupils learn hardly pays the cost of lighting and heating the room and paying a teacher to be on hand to await their pleasure. It seems to me advisable, soon after the opening of any evening school, to discharge all pupils who show no special interest in the work, or who are so irregular in attendance as to seriously interfere with progress in their studies.

Most of the classes in the Dearborn School have done better work the past season than ever before. Two classes deserve especial mention for constant attendance and excellent work. Other classes, with one exception, are worthy of commendation. The one exception is composed of young boys of whom mention has already been made. The teacher in charge has done all that could be expected of him under the circumstances.

The Sherwin School needs no special notice, except that the numbers have fallen off rather more than usual. I think that

the work done with the pupils is very good indeed, and the pupils are all very studious and very attentive to their duties.

The Comins School has been very large, and the work has prospered under the administration of the principal recently appointed. The past season has been a very successful one, and much credit is due to the principal and teachers.

The Warrenton School is very small, and only three teachers are employed by the city to carry on its work: but there are several volunteer teachers who serve without pay, so that the pupils of this school have special privileges accorded them. Nearly all the work is carried on individually; that is, with little attempt to classify the pupils, and it may easily be seen that the large number of teachers must be of great value to the pupils.

One thing should be said concerning all these schools: they are not well supplied with books. Many of the books are torn, defaced, and otherwise unfit for use. Teachers and pupils should be required to take the best of care of all school property; but in many cases teachers do not call for books when they are very much needed. These books should be as good as those given to the day schools, as the moral effect of excellent furnishings cannot be overestimated.

The reading books, in many cases, are not suitable. Full grown men and women should not be kept on Primers and First Readers designed for children five years old. Many of these adults are fairly good scholars in their own language, and it is absurd to put a scholarly Swede or German to reading "I see a cat," or "The rat can run," when there is plenty of reading matter sufficiently simple for use, and yet of sufficient interest to hold the attention. I would recommend that the matter of reading books for the evening schools be carefully considered before the opening of these schools in the autumn.

Respectfully submitted,

ROBERT C. METCALF.

REPORT OF GEORGE H. CONLEY, SUPERVISOR.

To the Superintendent of Public Schools :

DEAR SIR: My inspection work of grammar and primary schools for the current year has been chiefly in the schools of South Boston which comprise the Sixth Division. The schools of the Fourth Division in the Quincy and Winthrop Districts and the schools of the Ninth Division, which were assigned, the latter temporarily, to my supervision last October, I have visited as frequently as occasion would admit. The Mechanic Arts High School and the several schools of wood-working distributed throughout the city have claimed a considerable portion of my time. I have also given attention to evening classes, both elementary and high, inspecting those assigned me and observing others in preparation for the certificate and diploma examinations. My departmental work has been carried on, as directed, in the schools assigned to my particular supervision.

I herewith respectfully present a general report of my observations of the schools in regard to their organization, classification, discipline, and teaching; also a report upon the departments of study which have been assigned to my supervision.

ORGANIZATION.

Of the eight grammar schools in South Boston four are for the education of boys alone, three are exclusively for girls, and one is a mixed school. The Quincy and Winthrop Grammar Schools in the city proper are separate schools for boys and girls; and the two grammar schools in Dorchester, that were temporarily assigned me, are mixed schools. In the primary schools with few exceptions the boys and girls

are taught together in the several classes. The kindergarten, primary, and grammar grades of each school district are under the care and direction of the principal. He arranges or superintends all arrangements of the classes and assigns the teachers in their respective grades the special part of the work they are to perform in the general plan of instruction. The organization of all the schools is in accordance with the rules of the School Committee, which specify the number of classes for each grade, providing also for as many subdivisions of each class as its numbers may require.

The schools of South Boston contain about one-sixth of the total number of grammar and primary pupils in the city, and the number of teachers in this division is over two hundred. All the classes except two in the Bigelow District, and a kindergarten which is in the John A. Andrew District, are provided with accommodations in buildings erected for school purposes. The overflow from the Bigelow School occupies two rooms, each having a capacity of forty seats, in the court-house on Fourth street; and the kindergarten is located in a chapel opposite the John A. Andrew Grammar School, on Dorchester street. The rooms in the court-house, though ill-adapted for the purpose, have been occupied by primary classes for several years. At the beginning of this year, however, it was supposed that they would be needed no longer, as the new building on Third street would provide sufficient accommodation to relieve the congested districts. But in January it was found necessary to reopen these rooms, which had been closed in September, to provide for the increased attendance in the Bigelow Grammar School. The large increase of grammar pupils in this district is due to the migration caused by the demolition of tenement-houses in the Lawrence District, for the purpose of affording additional terminal facilities to the Old Colony Railroad. Hence the decrease which caused the loss of a sub-master in the Lawrence School and made a transfer of a second assistant to another primary school in that district necessary. In the

Quincy District, pending the erection of the new school building on Genesee street, the children are comfortably quartered in the Hall building on Harrison avenue.

Ungraded classes, specially provided for the instruction of children unqualified for the regular classes, are found in few districts. A difference of opinion exists among the principals as to their desirability. Indeed, objection might well be taken to these classes as they were conducted formerly; but of late a marked improvement has been observed in their character, which is due no doubt to the different conditions that prevail in regard to numbers, and to the different estimate of the ability of the teachers who should have charge of them. Special qualifications are required for this work, which many teachers do not possess; and even the most capable teachers shrink from assuming a charge which makes such large demands upon their patience, strength, and skill. None but the ablest, the most skilled and devoted teachers should be assigned to the charge of these classes. In some schools great care has been taken in the selection of these teachers; in others the material at hand has been used.

During the past year three kindergartens have been added to the three already established in the Sixth Division. It is the intention, I believe, to establish as speedily as possible kindergartens in every district to accommodate all children of suitable age. The kindergarten schools are doing excellent preparatory work for the primary schools, and it is apparent that many primary teachers have felt the influence of the kindergarten spirit and method. But many advantages are now lost from mingling the children that come from the kindergartens with the other children that do not have kindergarten training and for whom the work in the primary schools continues to be adapted. When kindergartens exist in every district, and in sufficient number for the training of all the children between three and a half and five years of age, we may reasonably expect to see in the higher schools many desirable changes in purpose and methods of instruction, and greater efficiency in teaching.

CLASSIFICATION AND PROMOTION.

The classification and promotion in all the schools are based upon the needs of the pupils as they are understood by the teachers. The application of the principle that the schools are for the children and not the children for the schools is everywhere apparent. Classes are promoted regularly from the work of one year to that of the next; but promotions of individual pupils occur frequently during the year. Pupils are not held back except when it is plainly evident that they are unable to do the work required in a higher class. Instances reported where pupils have been twice advanced in the course of a year are increasing, and in some schools they are quite numerous. In one case, a fifth of the present graduating class is composed of pupils twice advanced during the past year. In another case, in a school where the average age of the pupils of the graduating class is fully a year less than that of most graduating classes, in the lower rooms the work of a year and a half is often accomplished in a year's time. The effort in this district is to advance the pupils as rapidly as possible on account of the great numbers that are obliged to leave school at an early age. The aim of the principal is to give the pupils who leave before graduating the advantages of instruction by the able teachers in the upper classes, as well as to graduate as many as possible. He believes that it is "a grand thing" for his pupils to graduate, and in support of this sentiment, which does him honor, he says: "Aside from the many direct advantages and benefits gained it will be a life-long satisfaction and source of pleasure to them and to their parents to feel that they hold grammar school diplomas. They will have more self-respect and self-reliance. They will feel a deeper interest in and be firmer supporters of our public school system. They will be better citizens."

In the district last mentioned there are two ungraded classes, and from the regular classes are removed the slow

and backward children as well as those who are troublesome and hinder the progress of others by robbing them of their time and opportunities. Parallel divisions are made of the regular classes, the brighter pupils being grouped together. Changes are made frequently, and at any time, from one division to the other as the standing of the pupils determine. The pupils of one division work to hold their places, and those in the other work to keep up that they may take the places of any that may fall by the wayside. In this way a lively interest is awakened, and a friendly rivalry is begun which results in better order, better attendance, and better work every way; and, moreover, in the completion of the course of study in less than six years.

In another school a plan has been entered upon this year of dividing the year's work into four parts: at the end of each period of ten weeks a rearrangement of the classes is made, the pupils accomplishing the most being gathered together to compose the advanced division; at the end of the next period of ten weeks another readjustment of classes occurs, affording opportunity for those who excelled to advance; and so on to the end of the year. This plan contemplates preserving intact the six years' course of study, but allows pupils to advance over it at a rate suited to their ability.

In six of the twelve districts which come under my supervision semi-annual promotions are made from the primary to the grammar schools. The promotions made in mid-year in these districts are principally for the purpose of affording relief to the primary schools which are overcrowded in the lowest classes. The largest number of pupils receives promotion in September. Individual promotions occur at any time in the year that it may appear for the interest of the pupils to advance them.

DISCIPLINE.

The government of the schools is generally mild, but effective. Due regard for order that pupils may learn and develop self-control is observed. The regulations are reasonable, and are adopted with a view to the efficiency of school work and to the cultivation of good habits. Daily, at the opening of school in the morning, instruction is given in good manners and good morals; favorable opportunities are seized upon at other times to advise and direct pupils aright, and to illustrate and enforce moral truths; and the influences generally brought to bear upon the pupils are of a right nature and serve to strengthen the will in attention and adherence to duty. Usually attention and study come from interest and the desire of approval, but when other incentives are needed for the proper performance of duty they are supplied. The positive tone of command and the sharp note of censure are sometimes heard, and deprivation of privileges, detentions, and punishments are sometimes used to spur the laggard on in performance of the tasks required and to hold in check the unruly.

As a rule, however, all resources at the command of the teacher are exhausted before bodily pain is inflicted. In the kindergarten corporal punishment is distinctly prohibited, as is physical restraint of every kind. In the grammar schools the rules also forbid that corporal punishment shall be inflicted on girls, but in the primary schools there is no restriction whatever. Yet in the primary schools corporal punishment has well-nigh disappeared, and with few teachers in the grammar schools has its frequent or habitual use continued. Indeed, I know of only one district where corporal punishment appears to be applied to-day with anything like its old-time frequency and relish. The change to milder measures of discipline is largely due to the sentiment that was aroused a few years ago when the excessive number of cases of corporal punishment was exposed to public view.

Measures were then adopted which were intended to mitigate the evil, and no doubt they have had some effect through the restrictions imposed and the detailed reports that are exacted. But it is through the conviction which has been thrust home upon the teachers, and which generally prevails in the community, that the frequent use of the rattan is a confession in some degree of moral weakness in the teacher that the most good has been effected. The influence of the kindergarten and the manual training schools has been in this direction, and has contributed to milder measures by increasing the love of good, honest, and useful work in the schools.

A large number of the cases of corporal punishment monthly reported is ascribed to the absence of regular teachers and to the employment of substitutes. Teachers of experience can seldom be obtained on demand for substitute service. Even when experienced teachers are obtained it is not always possible for them, as substitutes, on taking charge of the classes to gain control of them by the practice of the highest incentives. The methods for securing order and for maintaining it are different. Imagine, then, the difficulties of substitutes who are inexperienced as teachers, recent graduates from the Normal School, upon whom the principals must mainly rely for substitute service. With a troublesome class of boys, or with a class of girls inclined to be unruly, the teacher's authority must be reënforced, if need be, by decisive measures. It is the teacher's duty to secure control and to exercise it. With an incapable substitute, a day or two at most is all that is needed to effect the complete demoralization of a class. Oftentimes would it have been better, in cases of brief absence of the regular teacher, to have dismissed the class until her return, than to have employed a substitute.

TEACHING.

Many of the principals take an active part in the work of teaching, not only in the graduating classes, but in all the

classes and in all the studies. As frequent visitors to the various rooms and from personal examinations, they learn the condition of the classes, and by directing and suggesting they keep the instruction continuous and systematic.

The methods of teaching are usually such as the teachers themselves have found effective in the conditions under which they are working. The teachers have nearly all had good training: most of them appointed in recent years being graduates of normal schools; and those longer in the service of the city have learned from experience enough of the theory and practice of good teaching to do intelligent and praiseworthy work. As a rule, the teaching is excellent in kind and method. Plans of work are carefully prepared; and methods that are modern and rational, and well understood and intelligently applied, are generally found to be used. However, there is some perfunctory treatment of work; and there are teachers, few indeed, who are mere imitators or automatons.

Most of the poor teaching found in the schools is to be attributed to the solicitude of earnest workers for "tangible results," as they say, meaning such results as can be recorded in percentages. But schools to-day are not judged as much by such results as formerly, as results are not capable of the exact and immediate measurement that could be applied under the old system. The methods used and the general teaching efficiency constitute the basis for an estimate of the worth of the instruction. The nature of the teaching is to throw the pupils a good deal on their own resources, and the aim is to develop power and build up character. The effects of this undertaking are not to be determined at the end of the month, or at the end of the year, nor even during school life. With methods natural and sound, and the teaching a living, vitalizing force, the results that are immediately appreciable should satisfy all reasonable expectation. Study of methods, and the principles which underlie them, holds a most important place with every ambitious and progressive teacher; and most teachers are found diligent students of the science and

art of teaching, devoting both time and money unsparingly to keep abreast of current educational thought.

The class plan of teaching may be said to prevail in all the schools under my supervision, except one. To a limited extent departmental teaching is carried on in the Bigelow School, and in one or two other schools a few subjects of study are taught departmentally. But in the Lincoln School, though this school is not one of the number designated by the School Committee for the purpose of making trial of this plan of instruction in grammar school work, departmental teaching is carried on in all the classes, and in nearly all the studies. The first step which led to departmental teaching in the Lincoln School was taken about two years ago. The introduction of manual training into the lower classes was the cause of the movement in this direction. The principal of the school had matured a plan of work which he was anxious to see carried out; but the teachers were not prepared to meet the demands which this new line of work would impose upon them. He accordingly undertook to prepare them in some measure for the instruction required, and he soon succeeded in awakening great interest in the plan proposed. Manual training was then begun in the lower classes, the teachers looking to the principal for instruction and guidance. For some time he continued to direct and instruct his teachers, and to teach some classes; but at length other duties forced him to assign this task to another. He therefore directed one of the assistants who had experience in the manual training work in a higher class, and who took special interest in the subject, to assume charge of the manual training instruction throughout the school. She complied willingly with this direction, at first simply laying out the work for the other teachers, and meeting with them before and after the daily sessions to advise and consult in regard to it; but later, with the consent of the teachers and the approval of the principal, she undertook the instruction in some of the classes. This plan proved so satisfactory that finally arrange-

ments were made which enabled her to give manual training instruction in all classes where the regular teachers found such instruction difficult or disagreeable.

The intimate relation of drawing to manual training led to the proposition of a similar plan for carrying on the instruction in that subject. The school was fortunate in having a teacher who possessed special skill in drawing; and she willingly assumed the instruction in several of the classes, at the same time directing the work of the other teachers in this department. The excellent results, which attended equally upon the special instruction in these two studies, attracted attention to the plan of teaching; and the question occurred: Why not try the same plan in other studies? This question being urged soon led to the adoption of the plan in teaching elementary science and music, and requests were made for its application to other studies. In response to these requests the principal announced a year ago last September that, if any teacher could effect a fair exchange with another, and thereby obtain the study he or she preferred, the change would be made. At first mutual exchanges could only be effected between teachers of parallel classes and in subjects of study that had equivalent allotments of time, as prescribed in the course of study; but finally studies and classes were arranged so as to provide for instruction by the same teacher in both parallel and consecutive classes.

In September last the school entered upon a programme with departmental teaching in almost every study and in all classes. Manual training, drawing, elementary science, and music are taught departmentally in all classes. Arithmetic is so taught in the first, second, third, and fourth classes; and geography is taught in this way in all classes above the sixth. Language, as yet, cannot be said to be taught departmentally, though a portion of it is included in the departmental work, and it is the purpose to have all the language work eventually done in this way. It is also the intention to make history a subject of departmental teaching. It should be

stated that the sixth, or lowest classes, in the school, are not included in the departmental plan of teaching, except in drawing, elementary science, and music. Furthermore, it is not proposed to introduce more departmental teaching in these classes; and the reason assigned for this is, that these pupils, who were last year in the primary schools, should be given time to learn the ways of the grammar school and become imbued with its spirit. The attitude of the principal with regard to the changes made in the plan of instruction has been always the same. He has been ready to suggest and advise, but he has never undertaken to persuade or force. The assignments of departments of study, and the mutual exchanges made, were in every case voluntarily sought by the teachers. Conditions were weighed, and every care taken to avoid mistakes. Since the first step there has been no backward movement. Progress has been slow, but it has been steady and firm. Two years have been taken to accomplish what has been done, and another year will be necessary to round out and complete the change.

The advantages derived from the change are many. The teachers are gaining in knowledge and power; and the pupils are reaping the benefits that come from the better knowledge and skill of the teacher. As far as can be observed, the deepened interest of the teacher in the subject does not detract from his interest in the taught, but appears to intensify that interest. Since departmental teaching has been introduced, the spirit of the school has steadily improved. The teachers frequently assemble for consultation and discussion in regard to their work. From these meetings unanimity of purpose, earnestness, and enthusiasm have sprung. Frequent interviews about the classes are held, and frequent inquiries about individual pupils are made; and in this way much information is obtained, which not only assists the teachers, but reacts to the greater benefit of the pupils. The pupils share in the earnestness of the teachers, and their interest is not confined to the class-room. The attention of parents has been at-

tracted, and not unfrequently have parents come to the school to inquire about the new way of teaching; and invariably they have expressed pleasure at the interest awakened in their children.

Moreover, the discipline of the school has improved. The pupils no longer look to one teacher and the principal as the only persons from whom directions are to be taken. They regard every teacher as authorized to deal with any refractory element, and to check misconduct anywhere in and about the school. Undoubtedly this is due to the larger acquaintance and influence each teacher has from teaching several classes, instead of one. Again, a sense of honor and a spirit of self-reliance are observed to grow upon the pupils in consequence of the trust and dependence reposed in them during the intervals of changing from class to class, when the pupils are alone. Finally, the teachers who could see no merit in the departmental plan of teaching at first, and who were slow to assent to a trial of it, are now the most enthusiastic in its praise.

Though this plan of teaching is not fully perfected, yet, as far as it has been carried, it has been attended with marked success. This successful demonstration warrants the confidence that in its complete development it will continue to prove a more effective plan of teaching than the class plan.

MECHANIC ARTS HIGH SCHOOL.

Last September the Mechanic Arts High School entered upon the second year of its existence. Prior to the opening of the school in 1893, the attention of the boys of the graduating classes of the grammar schools was called to the advantages that this new type of high school would offer. Its design, to afford pupils who had completed the grammar school course an opportunity to obtain theoretical and practical instruction in the mechanic arts, while receiving academic training, met the popular demand for the establishment of

such a school and was extremely attractive. Consequently the number that applied for admission, when the school opened, was more than could be properly accommodated, even had the school building been completed as originally planned. In point of fact the number admitted, as the entering class the first year, was equal to the full complement of the three classes which, it had been assumed, the school would have when wholly organized. Had the same course been pursued by the Manual Training Committee last year, the school would probably be overcrowded, notwithstanding the inconveniences and disappointments to which the pupils of the first year's class had been subjected on account of the unfinished condition of the building and the lack of equipment. As it is, the number of pupils in the first-year and second-year classes, though together slightly less than last year's class, is such as to ensure the working out of a course of study to the best advantage. Very large classes would impede this work, which requires thoughtful care and consideration at the present stage of development in the organization of the school.

A three-year's course of study is contemplated, the time to be evenly divided between the academic and mechanical departments; but the full school of three classes will not be in operation until the beginning of the next school-year. The course of study as at present arranged for the first and second year classes provides for academic work three hours daily, shop exercises two hours daily, and freehand and mechanical drawing one hour daily. As yet the school is not fully equipped either in the academic or mechanical departments; but both departments are in successful operation to the extent of which they are capable through the means at present supplied.

The principal of the school, since assuming charge of its affairs in September last, has endeavored in every way possible to expedite its completion and equipment. His thorough sympathy with the kind of work done in the school, and his

practical knowledge of machinery and shop work, together with his scholarly attainments and experience in the management of schools, give his opinion weight and make his authority respected. Since September much has been accomplished through his efforts and much unnecessary expense avoided.

Respecting the teaching force in this school there can be no corps more efficient if careful selection has effected its purpose. Many of the teachers received their appointments as assistants because of the eminent success which they had attained in their profession, and all have demonstrated their proficiency in the arts they teach and in the art of teaching as well. The ideal of government, as of the instruction established, is of the highest order. The regulations are recognized by the pupils as just and reasonable, and are well observed. The order in few high schools in the Commonwealth is as good as in this, and in none can the *morale* of the school be higher.

EVENING SCHOOLS.

In the elementary evening schools which have come under my inspection there has been but slight increase of attendance over that of last year; and in one school there has been a slight decrease, but the average attendance of this school compared with the average number belonging is better for the past year than for any of the preceding years of the school's existence. Greater care is exercised generally in the admission of pupils, and those who have been admitted, and who show that they "do not mean business," are excluded. The material for the graduating classes was better than that of last year, and improvement is perceptible yearly in this respect. In all the schools the earnestness of the pupils has been even more marked than in former years, and the zeal and devotion which characterize the teachers of these schools have continued unabated.

With one exception the schools continue under the efficient management of former years. In the largest of the

elementary evening schools, namely, the Franklin, a change of administration occurred at the beginning of the year. The position of principal had been held for many years by the same gentleman with high honor to himself and great benefit to the school. Upon assuming the principalship of a day school he resigned this office. The choice of his successor fortunately fell upon one who was thoroughly competent from experience in the management of both day and evening schools to fill his place.

The classification in this school is as close as can be effected with pupils of irregular attendance. Every teacher at the beginning of the term was supplied with a course of study showing not only what she was expected to teach, but also the work planned for every other teacher. The pupils were encouraged to work for promotion, and promotions were made weekly from each class as the progress of the pupils determined. At the close of the school year the pupils were assigned to the classes they will enter next year in case they return. This will be a great gain towards a quick organization and a better classification next fall. The principal is of the opinion that the standard required for a diploma from the evening schools should be raised, and his efforts are directed to that end. The number recommended for graduation this year was therefore smaller than the size of the school would seem to warrant.

There has been the fullest harmony among all of the evening school teachers. Principals and assistants have shown the best possible examples by way of punctuality, industry, and patient, conscientious work.

ARITHMETIC.

Acting upon the instructions received I have confined my investigations and departmental work in the study of arithmetic — one of the two subjects especially assigned me — to the schools over which I have general supervision. I have endeavored to ascertain the kind and quality of the work done

in arithmetic in these schools, and have used the knowledge acquired in ways I deemed of most influence in aiding and improving the instruction. Attention has been given more to the methods of the teachers and to the efficiency of the teaching than to results, though frequent tests have been given especially in mental arithmetic. These tests were sometimes made for the purpose of comparison between the classes in the same and in different schools, but more frequently their object was to indicate to the teachers some deficiency in the scope or character of the instruction.

A few years ago there was just complaint of the amount of time given to the study of arithmetic in excess of that allowed by the School Committee. At present the amount of time given is no more than that allotted in the course of study, if, indeed, this study receives its full quota, as the tendency is to take from the time assigned arithmetic and add to that of studies which are more pleasing and attractive. Especially has this tendency been manifested in the highest classes of the grammar and primary schools since the diploma and promotion examinations have been discontinued. The reaction from the tension so long in one direction has shown itself, as might be expected, in the inclination to extremes in the other. The pressure of the final examinations being removed, the drill that was deemed necessary to prepare for them is no longer the prominent feature of primary work; and in the diploma classes there is less repetition and less work in doing examples, while more attention is given in the main to illustrating and verifying principles. Where algebra has been introduced the time for this study has been levied upon the time allotted for arithmetic.

The portion of time given to mental arithmetic is at the discretion of the teacher. The course of study requires that mental arithmetic, under the names of oral and sight arithmetic, shall cover the same ground as the written arithmetic. Yet sometimes the share of attention this subject receives is found to be slight, and occasionally it is entirely neglected;

but, as a rule, mental arithmetic is made an important part of the study of arithmetic, and a proportionate share of time is assigned to it. Teachers who slight or neglect mental arithmetic altogether do so generally on the ground that they have no text-book, while some think that the usual explanations of written work answer all requirements. At present each school is supplied with one set of books for every floor, and it is not always possible for a teacher to obtain the books at the time she desires her pupils to use them. This is oftentimes, no doubt, a source of annoyance and inconvenience. Desk-books, however, are supplied every teacher for oral exercises. In these exercises the problems are read to the class by the teacher and the pupils either write or state the answers. For exercises in arithmetic at sight text-books are supplied the pupils. They read the problems designated by the teacher, and write or state the answers as before; or within a specified time the pupils write the answers of as many questions of the text-book as they can. There are various modifications of these exercises found in practice in the schools, all having the advantage of being quickly done and of forcing the pupils to think quickly.

In the primary schools object-teaching is carried on in much the same way in all the lowest classes, where modifications of the Grube method are in general use. The first year's work is a study of numbers from one to ten inclusive. Within these limits ample work is furnished for one year. The facts are presented and the operations mastered in regard to each number before the next higher is studied, and the foundation of the entire system of numbers is here laid. Hence, the more thoroughly the work is done the more sure and rapid will be all later progress in arithmetic. Teaching with objects continues in the other classes till the primary ideas are supposed to be distinctly known. When pupils are able to think of the things without the presence of the objects their use is discontinued. All operations, including relations of numbers, are taught by combining, and separating, and comparing numbers

of objects; and compound numbers are taught from the actual weights and measures. In the third classes there is a large amount of work in abstract numbers and in drill upon the tables; generally also there is found an abundant supply of practical problems furnished from desk-books, cards, and old examination papers.

The methods of teaching arithmetic in the grammar schools partake of the variety observed in other work. It is not usual for the principal, though he is responsible for the instruction, to prescribe methods of work. The teachers are allowed all the freedom that is consistent with the maintenance of a system of instruction, and occasionally even more. The advantage of having a uniform method, for instance, of teaching subtraction in a grammar school and its feeders is apparent; nevertheless different methods have been taught at the same time in schools of the same district. In the higher classes some teachers stoutly maintain that deductive methods are the best methods for teaching arithmetic as they give the best results; and rules and formulas are made to precede examples and explanations. Slate-work is a fetich with many teachers; and on the other hand in many classes a great amount of time is wasted in oral analysis. Explanations are gone over, again and again, sometimes after a prescribed formula, and are dreary and mechanical in the extreme. Such exercises deaden all interest and produce stupidity. That mechanical teaching should be found, or machine-drill practised, is not to be wondered at when so called tangible results are the main thing sought in some schools.

With teachers generally the principles involved and the reasons for the successive steps are of chief importance. When arithmetic is properly taught, concretely and inductively, practical results follow as the natural results of such teaching. Most methods found in use in the grammar schools are based upon sound principles, and for the most part arithmetic is taught to enable pupils, not only to

solve problems, but to understand the reasons for the processes employed.

WOOD-WORKING.

As supervisor of wood-working I have had occasion to give considerable attention to this department of manual training. One important duty in connection with this subject has been the preparation of questions for the examination of candidates for certificates to teach in this branch of school work. Every candidate for a certificate has been required to give a demonstration lesson, and the results of this observation of actual work with a class, combined with the general estimate of the candidate's intellectual and personal qualifications for the position of a teacher, have constituted the basis upon which certificates have been granted. This year the number of candidates for certificates was largely in excess of that of former years, and the number of certificates granted from regular and special examinations during the year has been more than double that of last year.

In the schools at the present time there are eleven special instructors of wood-working. Eight of these are women, all of whom were experienced and successful teachers in the public schools before they undertook the special work in which they are now engaged. These women are all graduates of the Sloyd Training School, with one exception. The total number of teachers from the Boston public schools who have graduated from the Sloyd Training School is twenty-four, nineteen of this number being women. The number of teachers from the public schools of the city who are at the present time engaged in working on the regular sloyd course, or are taking a special course in that school, is thirty-five; and thirty of these are women.

What attraction the teaching of wood-working holds out to women that is not offset by the laborious and fatiguing nature of the work required it is difficult to understand. Certainly there is no position in the schools where there is a

greater demand upon the physical forces or nervous energy of the teacher. From the beginning to the end of every session there is no cessation or relaxation of the strain imposed, and the constant din, arising from the use of the saw and other tools, must be, especially to women, most wearing and wearying. Then the salary paid these teachers has been less than that paid second assistants, although the classes they instruct are the same as are taught in the regular studies usually by first assistants and masters. It is very evident that it is not the pecuniary compensation that attracts, as that is far from commensurate with the arduous service demanded when the duties required of instructors in other departments are regarded. What is it, then, that causes many of the regular teachers to prefer a kind of work which is comparatively so onerous and poorly requited? Perhaps the reply made by one of these teachers, when questioned on this point, may afford an explanation. When asked for her reasons for desiring a change from a regular class to a wood-working school, she said in substance that she desired the change on account of the greater amount of good she believed she could accomplish. She could get closer to her pupils, could reach them individually, and could effect more that would be lasting upon their minds and habits than it was possible for her to do in the regular school-room. Undoubtedly this spirit is shared in by others, and has had its influence in drawing not a few into this field of labor. Then, especially in sloyd, there is an æsthetic element which appeals as strongly as the moral one to woman's nature, and no doubt this, too, contributes not a little to make the teaching of this subject especially attractive to womankind. Whatever may be the motive that actuates, or the incentive that impels women to take up this work, it nevertheless is true, that they show an absorbing interest in it, and become its most enthusiastic and efficient teachers.

From observation of all the teachers at work in their classes, and from the skill and patience displayed, there is no doubt

of the thoroughness and worth of the instruction generally afforded in this department. The distinction between work done and the power acquired in doing it is well understood. All the teachers affirm that the value of a lesson is not in the finished object, but in the power obtained in making and finishing it. Yet it has been observed that too much assistance is apt at times to be given, especially in large classes, on account of the demands upon the teachers' time. It takes less time, they find, to tell a boy what to do, or to do it for him, than to wait for him to think out what is to be done next, or how to do it. When such aid is frequently afforded it is but natural for pupils to relax their own efforts as difficulties are encountered, and come to rely too much upon the teacher. But for the most part the teachers take the time needed to stimulate their pupils to do their own thinking; they encourage them to rely upon themselves, and to teach themselves by impressing upon them the idea of personal responsibility and the necessity of the exercise of individual judgment in their work.

In some sections of the city the regular teachers accompany their classes to the shops. Many of them follow carefully every direction and require the attention of every pupil to the details of the subject presented by the special teacher. Even some engage in the work together with their pupils, thus setting an example of industry which dignifies the work and tends to remove whatever false conception the pupils may have of manual labor. These classes invariably make the most rapid progress and derive the greatest advantage from the instruction. In other sections of the city, where the regular teachers are not in the habit of attending the shop instruction with their classes, less interest is taken in the work, and in some instances it is difficult to command the attention of the classes. The directions of the Manual Training Committee are that the regular teachers shall accompany their classes, and be wholly responsible for their order while under the instruction of the special teacher. That these

directions are not complied with is due more to the manner of arrangement of the schools, and the inconvenience which would result in the division of the classes, than to neglect, or lack of interest, on the part of the teachers.

Drawing, as the foundation of manual training, is a prominent subject in the wood-working course. In the second classes special attention is devoted to the making of working drawings. For this purpose each teacher is supplied with fifty-six sets of models and a complete set of drawing materials, consisting of drawing boards, triangles, T-squares, compasses, etc. After some preliminary practice in the use of these instruments each boy is given a model which he examines with a view to discovering the facts needed in constructing a similar object from a working drawing. The idea of utility conveyed in this emphasizes the importance of making his drawing neat, accurate, and comprehensive. Any obscure or difficult fact in connection with the drawing is brought out by questioning, so that each pupil, with model and rule in hand, interprets and expresses by means of his drawing what he himself has seen or discovered. The work is so arranged as to progress logically from the simplest models, of which the facts are known by one view, to those which require a complete working drawing of three views, with the many minor details of projecting and dimensioning, all of which the pupils find out for themselves. The result of this kind of work upon a class is to pave the way for construction, giving each pupil an accurate and comprehensive knowledge of the successive steps in logical order which should be taken from the beginning to the completion of the work. Sometimes the teachers enlarge upon the work required and have their pupils make working drawings of boxes and other objects in order to fix the principles of construction more thoroughly in mind. Great pleasure and interest are evinced by the pupils in these drawing lessons, and the spirit of self-reliance and thoughtfulness encouraged and developed by them is noticeable in other studies and in general behavior.

The number of third classes at present receiving instruction in wood-working is five. The plan proposed by the School Committee is to carry this instruction into all the third classes as soon as provision can be made for them. It was clearly demonstrated in the experiment carried on last year that the boys of this class were equally as capable as the second-class boys to carry on this work. Indeed, from the accounts of the regular and special teachers they were even more energetic and apt than the older boys. The effect of this training in one of these third classes, which was fortunate this year in being continued under the same teacher as a second class, has attracted my special notice. Twelve weeks were allowed at the first of this year for the drawing in manual training. Each week a model was completed by this class, and when the time allotted had elapsed not only was this work done, and well done, but five weeks' lessons had been given on the regular course of drawing for the schools. Speed in execution was accompanied by neatness, clearness, and comprehension, and was the result of the previous year's training of eye and hand. This class not only maintained its grade with a parallel class in other things, but showed a more intelligent grasp on all the work. This power the teacher justly attributed to the training of the perceptive faculties which the class had received in measuring, in planning, and in working independently.

In wood-working the teaching force is about evenly divided between the two systems that have been on trial in the schools during the past three years. The intention of the School Committee at the time the experiment was begun was to determine by experience whether the sloyd or the Russian shop-work was the best means to supply the wants of the boys in the grammar school, or whether there might not be a better system evolved from a fusion or combination of these two. It would appear now that the time was close at hand when some uniform system should be adopted for universal use. Which of the two systems that have been so

long tried, or whether a combination of the two, shall eventually occupy the field, rests with the decision of the School Committee. Should the committee decide upon either the sloyd course or the Eliot-School course, there would be much obtained of the other in the adoption of either, as both are applied in our schools to-day. The influence of each system on the other during the period the experiment has been carried on has been strongly manifested in the modifications that have occurred in both systems. Through assimilation and mutual indebtedness they have become much alike in many respects. The lack of mechanical drawing in sloyd, and a disregard for the usefulness of the article made in the Eliot-School course, constituted originally the main points of difference between the two systems. In the sloyd course to-day, however, mechanical drawing is made a very prominent feature; and in the Eliot-School course a great deal of attention is given at the present time to the finished article of use. From both systems as now arranged and taught in our schools satisfactory educational results are shown. But of the two systems there is no doubt in my mind that sloyd as now applied is the better adapted for use in the grammar schools.

In the lower classes, where the first steps are taken, the teaching in sloyd is concrete; the objects speak to the understanding of the pupils and inspire in them the strongest interest. The making of articles of use gives a definiteness of purpose to the instruction and is made the sustaining attraction through the course, appealing at once to the love of production, which is inherent in all, and to the ambition of the pupil. When the course in wood-working is continued beyond the second classes, however, I believe that exercises in elements and principles may be introduced with advantage. The knowledge already gained from the sloyd will enable the pupils to understand the principles embodied in the exercise; and unaided they will be able to make applications of these principles. Moreover, in the exercise attention

is concentrated upon the particular problem in question; economy in time and effort is secured; greater skill in processes is acquired; and accuracy and ability in the proper use of tools obtained. These are some of the considerations for the use of exercises in the higher classes. Obviously their use at this stage would serve to give more power and a more comprehensive knowledge of the principles involved in wood-working. Therefore I would recommend for use in all the grammar schools a uniform course of study which would embrace the sloyd system and admit of exercises in the first class. Moreover, these exercises should be planned with reference to the course of instruction in wood-working in the Mechanic Arts High School.

In wood-working the industry and progress of the classes, and the general enthusiasm of both teachers and pupils, denote the excellent quality of the work that is accomplished. Interest in this department is an incentive to good work in all departments. Orderly arrangement and neatness of execution, keener observation and greater accuracy of work in all other studies are seen to follow as the results of the training in the wood-working schools. There can be no doubt that the influence of this training through the exercise of the judgment, the will, and the conscience prepares the youth both physically and mentally for capable and honest manhood.

Very respectfully,

GEORGE H. CONLEY.

REPORT OF GEORGE H. MARTIN, SUPERVISOR.

To the Superintendent of Public Schools :

DEAR SIR : In accordance with your request I submit the following report of work during the school year 1894-95 :

By your assignment there have been under my inspection the Normal School, the Rice Training School, all the schools of East Boston and Charlestown, the Hugh O'Brien School in Roxbury, the Henry L. Pierce and Harris Schools in Dorchester, and the Minot School in Neponset, making in all, besides the Normal School, fourteen districts. In addition to these have been the Lyman, Warren, and Quincy Evening Schools. The teachers in these schools are classified as follows :

Normal	.	.	.	.	.	.	.	.	.	12
Grammar	.	.	.	.	.	.	.	.	.	183
Primary	.	.	.	.	.	.	.	.	.	120
Kindergarten	.	.	.	.	.	.	.	.	.	22
Special	.	.	.	.	.	.	.	.	.	14
Evening	.	.	.	.	.	.	.	.	.	27
Total	.	.	.	.	.	.	.	.	.	378

Of these about fifty have been on probation during some part of the year, and therefore subject to special supervision.

Distinguishing between inspection and examination, I have given attention almost entirely to the former, as affording on the whole the best means of serving the school interests. The inspection has been directed to the organization, management, discipline, and spirit of the schools, the methods of instruction and the incentives to behavior and effort, and the results of these upon the pupils as shown by their conduct

and work. With this has gone on naturally and necessarily a study of the conditions under which the work is done, and the limitations which they impose. The number of teachers has been so large as to render it physically impossible to make the inspection as frequent or as minute as is desirable. An average of three or four visits a year affords a basis for impressions rather than judgments of individual teachers, and although a magazine writer has acquired notoriety by characterizing the Boston schools after a two days' visit, I find myself, after two years and a half of service, making daily discoveries of features which had not before revealed themselves.

ORGANIZATION OF THE SCHOOLS.

By recent changes in organization, the so-called "tandem" class division has disappeared entirely from the schools of the First and Second Divisions. This fraud,—not at all a "pious" one,—by which a child could be promoted every year, sometimes doubly promoted, and yet be eight or ten years doing six years' work, has thus been eliminated. As a result of this, larger graduating classes have been secured in some of the schools, pupils now reaching the first class who, under the old system, would have been squeezed out of school several grades below. It is doubtless true that the first classes have been somewhat diluted by introducing pupils of inferior ability and scholarship. But the best pupils lose nothing by the change, and the slower ones are encouraged all along the line.

The feature of the organization of all the schools, calling for the most immediate and careful consideration, is the size of the classes. Every school interest is being sacrificed by limiting the number of teachers, as is now done. Few teachers can handle, with any hope of success, classes numbering fifty-six to sixty pupils. None can do it for any length of time without imperilling their health. This excessive number of pupils to a teacher seems to me to be the parent of

most of the ills from which the schools are suffering, ills on the discipline side, and ills on the instruction side. Where it is not the cause of these ills, it affords an excuse for them. A weak teacher can always shelter himself behind this defence. Supervision finds at this point its most serious embarrassment.

SPIRIT OF THE SCHOOLS.

Of the general spirit of the schools, the relations of teachers to pupils and to each other, only favorable mention can be made. The primary schools especially are cheerful and attractive places. I visit but two or three whose atmosphere is repellent. That the work of these schools, with their thousands of pupils, should go on from day to day, and month to month, with so little friction and so much of real enjoyment, speaks volumes for the tact, the patience, the good-nature, and the self-control of the teaching force. There are still traces in some schools, and in some rooms in others, of a rigidity of formal discipline which seems to have come down from a former generation. Two ideas of school life seem to find expression: one, the *home* idea, believing that a school should, as far as possible, simulate the good home, every child having all the freedom consistent with the safety and the comfort of the whole; the other, the military idea, the unit being the mass, and all moving as one. The distinction between these two types is marked: one is a living organism, the other a machine. A similar contrast exists in the nature of the incentives which the teachers use for securing good behavior and faithful effort.

Much use is still made by some teachers of public advertising of the relative standing of their pupils in deportment and scholarship. The blackboards are covered with lists of names, each followed by marks of merit or demerit. Rolls of honor and black lists are common, and the ancient practice of seating pupils according to their attainments is still used by teachers who would not like to be called old. The worst

part of this is that these means are used by many teachers who have no need of them, whose personality is strong, who have in their own character and manner ample resources for bringing out the best in their pupils. By the use of these means the real power of these teachers is rendered dormant, their personality becomes dwarfed, and they suffer as much as the children. That some of these practices should be found useful by young teachers, or by weak teachers, or temporarily and occasionally by good teachers may be granted, but that they should be found necessary all the time, in a whole school, with a corps of experienced teachers is inconceivable. Such a chronic use of crutches belongs only to a hospital for incurables. I think the influence of the principals could be used nowhere to better effect than in encouraging their teachers to rely more upon themselves and less upon these artificial stimuli.

While speaking of these survivals of a more formal and mechanical age in school-keeping, I may mention that practice which originated in the colleges and percolated down through the high schools, of keeping exact records in per cents. or otherwise of the daily recitations and work of each pupil. It would be difficult to find any more striking illustration of what physicists call "the dissipation of energy" than this practice affords. It is most unfortunate that teachers for whose necessary work time and strength are all too scanty should feel obliged for any reason to carry this cramping burden. My observation leads me to believe that in many schools the time spent in arithmetic alone in ascertaining and recording the exact number of examples and problems done by every pupil every day would amply suffice for all the enriching of the course that has been proposed.

THE WORK OF THE SCHOOLS.

It is difficult to characterize the work of the schools in any general way, so wide are the differences. It may be said that there is everywhere an earnest effort to carry out

the course of study as it is understood. Nearly all the teachers are faithful, many are skilful, some are enthusiastic. Many more have been enthusiastic, and might have continued to be so if the conditions under which they labored had been more favorable. If there be a general weakness it lies in the failure to develop in the pupils the ambition and the power of self-help. The skill of the teachers is more fully exhibited in their presentation of subjects than in stimulating pupils to independent effort. Much of the work is simple giving and taking, and giving back. If the teacher receives from the pupil what she gave, in exact form and full amount, she marks him 100, puts his name on the board at the head of the roll of honor, and gives him the highest seat. Quick perceptions and a retentive memory meet all the requirements of this work, and a minimum of mental effort receives a maximum of reward. In all the lines of work the pupils need to be left to themselves much more than they are. If the work were carefully assigned, adapted to the capacity of the pupils, so that they should work up to the limit of their power, closely watched *in* the doing and not *after* the doing, so that assistance could be given when and where it was needed, more power would be developed and the ends of education more fully attained.

It might not be possible to measure all the pupils by the same standard of attainment, or to mark the results so accurately, but this is an objection which lies against all real educative work, and ought not to have controlling weight in determining school-room methods.

Illustrations of this habit of working *for* the pupils instead of *through* them are found in geography, history, and all the lines of science, where the teachers gather information from books, boil it down, and formulate it into statements which the pupils copy into note-books and memorize. I have heard the whole sixth-class geography of North America recited in concert from such a digest. The advantages of this method are accuracy of statement, smoothness of English, and uni-

formity. The great objection is that the effort of the pupils is often directed to recalling words without reference to the thoughts, rather than to finding words for thoughts, so that the work affords no real training either in thinking or expressing. While there is considerable of this sort of work, there is much of a higher order. There is work in geography far beyond the traditional naming and locating of places. The study of relations has been developed by many teachers in all grades in an intelligent way, so that the work has taken on new interest, and has been made to afford great mental stimulus.

I have also found much excellent teaching of English. The range of composition work has been broadened, all the other subjects in the curriculum being made tributary to it. Nor has the technical part of the work been neglected. A careful oral examination of all the graduating classes which I made last year showed that the structural principles of the language were as well understood as we have any right to expect.

A similar examination in history and civil government showed that in these subjects, too, much of the instruction in the first classes is broad, and as thorough as the conditions permit. The pupils in these classes are old enough to comprehend principles and relations, and the best teachers, realizing this, no longer satisfy themselves with drilling upon unrelated facts, but strive to widen the range of thinking, and to cultivate the judgment as well as the memory.

ELEMENTARY SCIENCE.

By special assignment the two departments of nature study, called in the course of study observation lessons and elementary science, were placed under my supervision. On examination I found the condition of the work about as represented in the report of the superintendent for 1891. In a few schools, under the impulse of a genuine interest, the work was pursued in all the grades *con amore*. In many

other schools individual teachers were working in a similar way. But in the great majority of classes there was little that could be called nature study. I found in nearly every school a kind of work occupying the time assigned to science, and called by the name of science, which had scarcely any scientific flavor. For this the course of study seemed partly responsible. Lessons were called for on the structure and habits of the crab, spider, butterfly, grasshopper, frog, fish, robin, hawk, hen, duck, rabbit, sponge, coral, star-fish, oyster, snail, jelly-fish, elephant, whale, seal, ostrich, and others. No adequate provision being made, or in many cases being possible, for supplying specimens of these objects, the teachers have prepared elaborate and exhaustive topical outlines, which they have filled in with information gathered by their own study. These descriptions have been copied by the pupils, and afterwards reproduced in compositions. While this work is not without value, it is not science teaching in any sense.

A careful survey of the whole field seemed to lead to the conclusion that, to build up a successful and profitable line of real nature study throughout the city, it would be well to begin in a tentative and simple way, to begin with the lower classes, and to begin with the study of plants. In accordance with this thought, last spring a circular was prepared containing suggestions for elementary plant study. This was approved by the Board of Supervisors and by the Committee on Examinations, and was sent to all the teachers of the first five grades. In June the teachers of the highest primary classes and of the lowest grammar classes sent to the superintendent papers written by the pupils in the course of this study. These papers taken as a whole were interesting and instructive. They showed that if the teachers were not all enthusiastic, they were all willing, and that with encouragement, and direction, and assistance, excellent work might become general.

In the early part of this school year another circular was

prepared, more specific in its character, and aiming to establish some rough grading and progression. In the hope of giving some added impulse and aid, I arranged a series of meetings, first with the primary teachers, and then with the teachers of the fifth and sixth grammar classes. In these meetings I have met all the teachers of these grades in the city, and have presented the plan of study and the principles underlying it. Having previously by invitation presented the general plan to the associated principals, I was encouraged by the presence of many of them at these grade meetings. I say encouraged, because I believe that the success of this line of work, as indeed of every other, is in their hands. If the teachers feel that the master is personally interested in this work, and wants it done and done well, they will undertake it with earnestness. On the other hand, if they have reason to think that he is personally indifferent to it, they will neglect it, or do it perfunctorily, which is worse than to neglect it.

Nature study has come to be universally recognized as having a substantial educational value. No plan of school work can be considered complete which does not contain this as an integral part throughout the course. The exact direction which the work shall take, the material and methods to be used, and the adaptation to the local conditions, are everywhere still matters of experiment, and fruitful subjects of discussion; but thousands of teachers all over the country are at work upon the problem, and we are professionally bound to contribute our share of interest and effort.

Two serious difficulties confront the teachers in their effort to carry out the plans for plant study. First, no means of teaching are provided by the city, and the teachers are forced to secure for themselves seeds, soil for germinating, boxes or pots, and such plants or parts of plants as they may need. Second, having provided themselves with all of these, often at considerable expense, they find the school-houses are too cold to keep them in. Scores of teachers have left at night

flourishing window-gardens, and in the morning have found everything frozen. After repeated experience of this sort it is no wonder they seem discouraged and spiritless.

Not until this department of school work is recognized in a substantial way, by providing the necessary means for carrying it on, can we hope for any large measure of success. The teachers are willing: they should be met in the same spirit. It is the purpose to develop other lines of nature study as practicable, and as soon as possible to include all the classes in its scope.

In several schools much more has been done than I have outlined. This is especially true of those schools where, under the departmental plan of organization, special teachers of science have been designated. Having been selected because of peculiar interest or fitness, they have carried on their work with enthusiasm, and have constantly broadened it in its scope and improved it in method. This work has been scientific in the best sense, combining observation, comparison, and judgment throughout. This may prove to be the best way to carry on the work in the grammar classes. I purpose to study this phase of the work especially during the remainder of this year.

Respectfully submitted,

GEORGE H. MARTIN.

REPORT OF SUPERVISOR WALTER S. PARKER.

To the Superintendent of Public Schools :

DEAR SIR: In compliance with your request, I herewith respectfully submit the following report :

Allow me to say, as preliminary, that it affords me much pleasure to testify to the cordial greeting that I have received from all those with whom I have come in contact in my connection with the schools; also of the kind appreciation of offered suggestions. The spirit of the teachers in this direction is highly commendable. I have found, thus far, the greatest willingness to accept and adopt any suggestions in the way of improvement either in methods of instruction or discipline.

My assignment consists of eleven districts; namely, the Bennett, Bowdoin, Eliot, Gibson, Hancock, Lowell, Phillips, Stoughton, Tileston, Washington Allston, and Wells.

My general plan has been, to visit each class and teacher at least an hour, and many of them a longer time, which action necessitated the consumption of much time and therefore few visits during the year. It seemed to me that one visit with a careful inspection of the spirit of the teacher, her relations to the pupils, her ability to teach, her power to impress and to make her teaching and influence effective, would be better than several visits of short duration. In this way I have spent two and three weeks in some districts, thus becoming somewhat conversant with their atmosphere and general spirit. When the right spirit is manifested it is almost a sure indication of the mental and moral worth of the work accomplished. It is the *spirit* that reaches out in sympathy to the very centres of human action.

ORGANIZATION.

In your letter suggesting this report you express the desire that we should report on "the organization, of the work going on, of the excellencies, deficiencies, difficulties, and needs that have appeared, and of the improvements that can be made." The organization of the schools in the districts assigned to me varies somewhat in different parts of the city, the variation naturally resulting from the different grades of pupils and the conditions and surroundings in which they are placed. Most of the schools are making a trial of the departmental work in some form, with varying degrees of success. In planning the work the masters have taken into account the fact that the personality of the teacher is a very important factor to consider, perhaps the most important factor, excepting the child. Some teachers, and strong teachers too, are so constituted that they cannot readily, comfortably, or profitably adapt themselves to circumstances so different from those in which they have worked for many years. It is but just to speak of the good grace and fine feeling with which nearly all teachers have entered into an honest effort to make a fair *trial* of the departmental work. It is of course too early to draw conclusions as to results. It should at present be considered only an experiment. I believe it should not be forced upon any school.

The work has been planned in most cases to meet one of the most serious objections to departmental teaching in the grammar schools. It is claimed that the direct inspiring moral influence of the teacher is lessened; that the child's individual needs are neglected; that the individual is sacrificed to the class; and that the subject-matter considered is more prominent in the teacher's mind than the child to be taught. Many of the masters have endeavored to meet these objections by arranging the order of exercises in such a way that each teacher has her own class at the opening exercises in the morning and for a longer period each day than she

does any other class. It should be borne in mind, that if the teacher has more pupils to influence, she also has more time in which to exert that influence. Instead of having the pupils of one grade during one year, under the new arrangement she has the pupils of three grades for three years. The weak teacher has difficulties in discipline, but these difficulties always exist with inefficient teachers. Perhaps under the old organization the inability to govern wisely and skilfully was less prominent, being more confined. It has been claimed that the tendency of departmental work is against correlation of subjects; if true, it is worthy of serious consideration.

A peculiarity of organization consists in the large number of special or ungraded classes to be found in the Eliot and Hancock Districts, and in a less degree in the Wells, Bowdoin, and Phillips Districts. The reasons for this seemingly abnormal classification are apparent to anyone visiting the schools in which it is found. In most cases the classes are composed of pupils who have recently come to our country from abroad. They have no knowledge of our language, either spoken or written; many of them have not attended school in their native land. The masters and teachers, without exception, testify to their great eagerness to learn our language, and to their earnestness of purpose to become Americans. They are for the most part docile and tractable. They need and deserve able, skilful instruction. The rules provide that the number for the ungraded class shall be thirty-five. Some of the classes reach as high as forty-five and fifty. From the very nature of the case it would seem well-nigh impossible for any teacher to do justice to a class of even thirty-five pupils of different ages, in various degrees of development, just beginning the study of our language. It would seem wise that a special course of reading be planned for these classes, and books furnished for supplementary reading which are particularly adapted to their needs, and the course of study to be somewhat modified in its application to them.

DISCIPLINE.

The discipline of the schools, so far as it has come under my personal observation, has been generally good. It has seemed to me that many teachers did not at all times comprehend that the ultimate end of all discipline, to be of lasting benefit to the child, should be self-discipline. Teachers ought to be extremely careful not to lose their sympathy for and their interest in boyhood's days. They should see to it that they do not view with bitterness any exhibitions of a frolicsome nature, which could be easily overcome by the skilful teacher in some simple way, or prevented altogether by wise foresight. The pessimistic teacher, however, "makes a mountain out of a mole-hill," and continually nags the boys until they rebel from sheer desperation.

It is but just to remark that these cases are few in number. I think it is safe to say, that when a teacher has lost her "sympathy with the shifting interests, the flowing mirthfulness, the strong, though idle, fears, the passing anxieties, the perplexing puzzles, the sore disappointments of childhood, — if to her these are all alike childish and beneath consideration, — she is out of sympathy with the real life-work of the teacher of youth. Better that such a one betake herself to what she regards as more congenial work and leave to others the delicate and difficult task of bringing a cultured manhood and a refined womanhood out of feeble, undeveloped childhood." Her days of usefulness as a teacher are gone. Mere age does not appear to be a criterion by which to judge, when that stage has been reached. Many persons never lose their interest and sympathy with childhood.

Between teachers and pupils there seems to be generally a kindly feeling, a good understanding, and a desire to deal justly. All teachers do not have in an equal degree the power, so much to be desired, to influence, to inspire, to instruct in ways of right living, by means of the higher motives. We cannot expect that *all young teachers* will have this

power, but we have a right to expect that older ones, with long experience, will nearly or quite attain it. In rare instances a system of self-reporting is used daily, which I believe to be pernicious, leading to deception and dwarfing the moral nature.

VENTILATION AND LIGHTING.

One of the difficulties, as well as one of the deficiencies, with which some of the schools of my district have to contend, is poor ventilation and poor lighting. These are matters that directly affect the influence of the teaching, the discipline, the moral power. If a simple device in the shape of a "reflector" could be placed on the windows near the top, to cause the cold air to flow upwards to the ceiling and cause it to mingle somewhat with the warm air of the room before descending to the floor, it would be of great value at a trifling expense. It is impossible to remain long in many of the rooms without having the windows opened slightly. If the doors leading to the corridors could be kept opened most of the time, it would aid materially in giving better air, besides having a salutary influence on the discipline of the classes. Some of the schools have a record of the standing of the thermometer taken at regular intervals during the session and recorded on the blackboard with the time of observation. This practice tends to the keeping of a uniform temperature. The change of air in the class-room is one of the most important things which can engage the teacher's attention. It is easily omitted, and yet when neglected, the welfare of the school is endangered. A good school and foul air are incompatible.

Closely connected with ventilation is lighting. In some of the high buildings, light is practically shut out from one side in the lower rooms, by the close proximity of high brick buildings, and gas-light is needed during many of the winter months. It would seem practicable to enlarge the windows on one side and admit more light. Old buildings used for

mercantile purposes are made lighter by enlarging the windows even at the loss of architectural regularity on the outside. The need of better light in some of the rooms at the North and West Ends is painfully apparent. Light, air, and heat, are essential to the moral, mental, and physical development of the child. Without them in the right proportions, the efforts of the highest teaching ability are ineffectual. Some of the rooms in the Eliot, Phillips, and Baldwin Schools are in greatest need of more light. By the use of iron frames to support the parts affected, the area for the introduction of light could be very much increased. In some of the schools, if special care were taken in the selection of shade and tint, for walls, ceiling, and woodwork when painting, it would aid in lighting up the rooms, and making them more cheerful.

GEOGRAPHY.

The subject of geography, specially assigned to me, has been for many years of interest to me on account of its close connection with history and many of the other elementary subjects of instruction. In fact it is so wide in its influence that it touches nearly every one of them, and herein lies its true value. In considering the difficulties encountered in the teaching of this subject I am forced to say that not all the schools are well supplied with suitable maps, the very first essential in the teaching of geography—an absolute necessity. I have found maps in use that were published thirty years ago. It is needless to remark on the value of such maps for teaching geography. Such great changes have been made in nearly every grand division during the last twenty years, that comparatively modern maps are needed. Some schools are well furnished with common political maps, but there is a lack of the best physical maps. It would seem desirable that a careful investigation be made of all the latest maps and charts that have been published, with special reference to illustration of physical features and the great routes of communication of the world. Interest would be engen-

dered in the subject if illustrations were furnished, of typical forms of geographic feature taken from nature with the typical *living* geographic forms: plants, animals, and man, taken from life, together with photographs of the greatest of human works. In the Dorchester schools, they are able from the Gibson Fund to furnish each grammar building with a set of fifty-six small globes in order that class instruction from the globe can be made a prominent feature. I would suggest that each grammar school district in the city be furnished with one set of fifty-six small globes, to the end that more prominence be given this important part of geographic instruction.

Many maintain that much of the instruction during the earlier stages of the work should be with the globe, so that the child shall get clear and comprehensive views of the *relations* of different parts of the world. While he may not understand in all its fulness, he will at least recognize the fact, that no matter what part of the world he studies, that part has some relation to and is a part of the great round globe on which he lives. In other words the relation of geographic knowledge will always appear.

There have been very great changes in the study of geography during the last ten years; the methods of instruction have been greatly improved. The study is put upon a more rational basis. The so-called "sailor geography" — the memorizing of innumerable and unimportant capes, gulfs, bays, and straits in remote parts of the world — has been abandoned in many schools. Much of the work in the schools is correctly described by Dr. Harris when he says that "instruction is growing better by the constant introduction of new devices to make plain and intelligible the determining influence of physical causes in producing the elements of difference, and the counter process of industry and commerce by which each difference is rendered of use to the whole world and each locality made a participator in the productions of all." Although there is some difference of opinion

among students of geography in regard to the relative importance of the physical and human agencies at work on the globe influencing the life of man, yet all are agreed that in the study of geography during its early stages we should begin with what is called observational geography. The pupil is to study at first hand, by actual observation, the real geographic forms near his school, in order to build up, in his mind, true concepts of land and water forms, with which to form, by the aid of his imagination, right concepts of countries far away and never seen. I believe this observational work should be done by every class in the early part of the work, and the classes encouraged to take short excursions for this express purpose. It is the foundation of all the future work of the pupil. In this way he acquires true basal ideas of geographic knowledge.

He should also observe the phenomena of the weather and the climate, including all those agencies which affect the life of man and produce constant changes of the earth's surfaces. The schools are not doing all that should be done in the observational work, but perhaps all that could be expected of them under the present circumstances. Work of that nature has not been sufficiently encouraged. The work that would naturally follow the observational study is the reproductive or representative geography. In geography, as in language, we first have the thought, then the symbol, and last the expression. "Expression is the test of the pupil's knowledge." It can be either moulding, drawing, or language. Some of our schools are doing good work in this direction. There is a tendency in moulding and drawing to forget that this form of expression is to show *general outline* and *general physical* features, not particulars, not minute differences.

After the pupil has made his work of observation real by the right expression of it, then he is ready to study "descriptive geography," so called, and cultivate the imagination by the proper study of the countries of the world, but always in their relation to his native land, thus training his reasoning

faculties. As the pupil starts in the study with home geography, he should throughout his whole course in this subject, no matter what country he is studying, continually refer it to and compare it with the United States and North America, and in some particulars with Massachusetts and his own city, Boston.

I have not been able to comply fully with your request to visit other parts of the city for the express purpose of observing the work in geography. I have visited a few schools outside of my own section. Many are doing superior work, all that could be reasonably expected under existing circumstances. A few, however, are laboring under the impression that geography is a deductive science and verbal memory the principal faculty to be trained, for the work seems to be based on that idea, or at least the methods employed would warrant that assumption.

In conformity with your desire I have begun a series of talks to the teachers of the schools under my special supervision. Instead of meeting the teachers of each grade separately, to discuss with them the teaching of geography as applied to their grade, I have thought it wise in the first meeting to call all the teachers of one district together, for the purpose of considering certain principles of teaching, which are applicable, not only to the study of geography in the different grades, but should be used to a certain extent in all grades when teaching the subjects that are related to geography. It will also give me an opportunity to talk with the teachers of each district on certain principles of discipline, general management, and certain reciprocal relations, which they hold to each other, to the parents, and to the district. The teachers of each district have a community of thought and feeling peculiar to themselves. Hence my desire to meet the teachers of each district together before commencing the talks on geography to each grade.

Yours respectfully,

WALTER S. PARKER.

REPORT OF HENRY HITCHINGS, DIRECTOR OF DRAWING.

To the Superintendent of Public Schools.

DEAR SIR: In compliance with your request I herewith present the following brief report, in relation to the work in drawing done in the primary, grammar, high, and normal schools, and in the free evening industrial drawing schools of this city.

PRIMARY AND GRAMMAR SCHOOLS.

During the larger part of the school year (1893-94) the teaching in these grades was rather desultory. This was owing to the fact that there were no text-books, manuals of drawing, or detailed course of study authorized for use in connection with this subject. The brief general statement of the course of study in drawing embodied in the general course of study, and such individual or class instruction as they received from the Director of Drawing and his assistant, together with such directions as the teachers received from the principals of their respective schools, constituted their only guide to teaching this subject during that period. As could readily be foreseen the results of their instruction, under these conditions, were not universally satisfactory. Those teachers having a good knowledge of the subject, added to years of experience in presenting it, were of course the most successful in obtaining good results; while those who had hitherto depended upon the use of manuals and books of copies, being now thrown so largely upon their own resources, were necessarily not equal to the occasion. One good result from this experience on the part of the teachers has been to convince many of them of the absolute

importance of a broader knowledge of the subject and how to teach it without such aids, whatever the course of instruction may be which the School Board adopts for their use.

Later in the year the present course of study was authorized for use in the schools, and the teachers began to use it as a guide for their instruction in this subject. It would of course have been impossible during the remainder of the school year to complete the whole course; consequently the teachers were instructed to go as far as they could in the limited amount of time which remained to them for this purpose. The results which were accomplished during this time — or selections from the pupils' work — were collected by the principals of the schools, and at the request of the Superintendent were sent to him for examination. These drawings I have also examined carefully, and find as one result of this examination that a very large percentage of the teachers worked faithfully and honestly in their efforts to carry out the instruction in drawing, upon the lines laid down for their direction in the new course of study.

The results as seen in the pupils' work have been very interesting, showing, as they do, more flexibility of hand in the use of their materials and a much larger percentage of individuality and character in their drawings than has been seen in the work of previous years, and one cannot help feeling that there has been more instruction of a good kind behind such results as are seen in this work. It by no means follows from what has just been said that the results shown are perfect or even as good as may be produced under more favorable circumstances. It is only a beginning in what seems to me to be the right direction, and if the hands of those who are responsible for results in this department could be strengthened by having such materials for work placed at their disposal as are absolutely essential to its proper development it would be a great gain in the right direction. But the materials furnished for use have been, to say the least, not wholly adequate to the purpose of carrying out successfully the present course of

study. This I regret very much indeed, as I am fully convinced that the present method of teaching this subject is a great advance upon any hitherto tried in the schools of this city. No course of study, whether presented by regular or special teachers, can be expected to produce the best results unless the pupils are furnished with proper materials for their work and the teachers with proper models for instruction; and the use of loose sheets of paper of all sizes and shapes, as they are employed in many of the schools at the present time, is to my mind very objectionable. Previous to the close of the school in July last the Committee on Drawing passed a unanimous vote that the pupils in the primary and grammar schools should be furnished with blank drawing-books, and it was also understood that the pupils should be required to use them for the purpose of placing on record the final results of their drawing instruction. A small number of schools were furnished with them at the beginning of the present school year, but by far the larger number of schools were furnished instead with loose sheets of paper only.

For some years past these schools (primary and grammar) have not been furnished with a sufficient number of models of the type forms which are so essential for use in the best methods of teaching model and object drawing. This has been unfortunate, and the director of drawing has, from time to time during this period, asked through the Committee on Drawing for a supply of those models which were absolutely essential. His requests have met with only a partial response, the additions made being confined entirely to the lower grades. Finally, when the present course of study in drawing was adopted by the School Board he made another appeal to the Committee on Drawing for models to fill the deficiencies then existing in the grammar grades. Lists of the models then on hand were furnished by the principals of the grammar schools, and from these a list of those required to complete the needed complement in each grammar school was made out and presented by the director to the Com-

mittee on Drawing. After discussion by this committee and a change made by them in the quantity to be asked for, they voted unanimously to ask for additional permanent material of this kind. Their request was denied by the Committee on Supplies, and the whole matter stands just where it did before this appeal was made. That "bricks can not be made without straw" is an old adage, and it is unquestionably true that good results can not be produced in drawing without proper material for its production.

We have a large number of faithful workers among the teachers in our schools who have done honest, conscientious work in drawing, making the best use of such material as they have been furnished with. And I have also known some among them to buy and pay for, out of their own resources, some of the material used by their pupils in connection with their work in drawing, but it does not seem as if this should be at all necessary for any of them to do. No one can say that the amounts asked for material with which to carry on this work have been excessive or extravagant; indeed, I think the reverse of this will be found true if we compare the sum of what was needed and asked for, together with that which has actually been expended during the present year, with the amount expended during any previous year when drawing-books containing printed copies were used. My own impression is, that the balance will be in favor of the present year. Blank drawing books certainly cost less than those with text and illustrations.

To assist the teachers in carrying on the work in drawing without the aid of text-books a course of instruction was begun last year and has been continued during the present school year. The meetings for this purpose have been held in different parts of the city and have been well attended by teachers of the primary and grammar classes. The instruction has been given by the director and his assistant, Mr. Poor. Personally I should have been much gratified if members of the committee on drawing could have given time to be

present at some of these meetings, as it would undoubtedly have proved a source of encouragement to the teachers as well as to myself and my assistant, and I see no other way in which they could have obtained any good understanding of the kind or character of the instruction given to the teachers as supplementary to and illustrating the course of study which they were required to use as their guide.

If the departmental plan of instruction should be adopted it would undoubtedly be a great gain to drawing, as it would enable the director to come into closer relation with these teachers who might be assigned to drawing under that arrangement than can possibly be the case where all the teachers are expected to teach this subject, as they are under the present conditions. The departmental system has worked well for drawing in the high schools, why may it not also prove good for the primary and grammar schools?

One other item in connection with the work in the lower grades, namely, the change from using slates to paper. This would seem to be a move in the right direction, at least so far as drawing is concerned.

Under the old arrangement those children who used slates for their drawing did not gain flexibility of hand so rapidly as was desirable, and the substitution of paper has been a great advance in this direction.

HIGH SCHOOLS.

There has been no recent change in the course of study in drawing for these schools, and the results in the different classes have been, at the least, fully up to their usual standard.

NORMAL SCHOOL.

The course of instruction in drawing in this school has been based, partially, upon the possible adoption of the departmental method of instruction in the primary and grammar schools. The added amount of time recently given to the general course of instruction has made it possible to give a

larger amount of time to drawing instruction than has been hitherto practicable. A supplementary course of normal instruction has been arranged for those pupils who have shown the greatest aptitude for this department of teaching, and who are also desirous of receiving further knowledge in it for the purpose of fitting specially for this work. My regular course of lectures to the pupils in this school has been given as usual. These have been supplemented by the regular course of instruction and practice in drawing, which has been in charge of my assistant, Mr. Poor, who has also taught in the training school.

FREE EVENING INDUSTRIAL DRAWING SCHOOLS.

The city has been fortunate in having a strong corps of teachers attached to these schools, and the quality of work produced by the pupils can hardly be matched in any but the best professional art and scientific schools. The standard of qualification for the certificate of ability to teach in these schools is high, and the applicants for these certificates are numerous. Many of these do not, however, get beyond the preliminary or informal stage of the examination. The reason for this is not difficult to find, as a large percentage of this number, while they know something about drawing or painting or both, know absolutely nothing about teaching. The number of applicants the past year who finally undertook the examinations is 17. Of these 6 passed the free-hand, and 5 passed the instrumental or mechanical examinations. Five failed or withdrew from the free-hand, and one from the mechanical. The whole number of certificate works (mechanical and free-hand drawings and clay models) accepted during the year is 4,186. Of these,

1,610	were by pupils in the Tennyson-street School.
594	“ “ “ Roxbury School.
505	“ “ “ Warren-avenue School.
628	“ “ “ East Boston School.
849	“ “ “ Charlestown School.

Local exhibitions of the work done during the school year were held in the different schools, and the following awards of certificates and diplomas were made to those students who had completed all the certificate drawings and passed all the required examinations in their respective classes :

Schools.	Certificates.	Diplomas.
Tennyson street	55	24
Roxbury	29	18
Warren avenue	28	12
East Boston	32	16
Charlestown	38	24
	—	—
	182	94

Since the beginning of the present school year (1894-95) the Tennyson-street School has been removed to the Mechanic Arts High School Building and its name has been changed to the "Mechanic Arts Evening Industrial Drawing School." The arrangements made for its accommodation in its present quarters are not altogether satisfactory, as the advanced classes in machine and architectural drawing have been put into the same room without any partition or screen of any kind to separate the two. As they both meet at the same time, and as it is necessary that instruction in both classes should be given at the same time, it can readily be perceived that the teachers in these classes cannot work with any comfort or convenience, nor can they be expected to accomplish the best results under such conditions. It was understood before the removal of the school to its new location that partitions were to be erected where they were needed, and plans for those necessary were furnished to the Superintendent of Public Buildings. Why they were not put in I do not know ; but if the school is to remain where it is they would seem to be absolutely essential to the proper conduct of the work, and it is to be hoped that the original plan will be carried out and such changes and additions as

are needed will be made before October next. At the Roxbury School the lighting in the first-year free-hand class-room is, in part, very poor and needs attention before the reopening of the school. Some of the plaster casts and models in the cast room which have been in use for a number of years need repainting, and it would be of great advantage if these also could be attended to before the schools open again.

Respectfully submitted,

HENRY HITCHINGS,

Director of Drawing, Boston Public Schools.

REPORT OF DR. EDWARD M. HARTWELL,
DIRECTOR OF PHYSICAL TRAINING.

To the Superintendent of Public Schools:

DEAR SIR: Agreeably to your letter of request, dated Jan-30, 1895, I respectfully submit the following report as Director of Physical Training. My last report, which was made to the School Committee, was published as School Document No. 8, 1894. It covered the period Jan. 1, 1892, to June 30, 1894. In that report the general condition and policy of this department were outlined as follows:

In general terms it may be said that there has been healthy growth and expansion in the department of physical training during the interval since my last report in December, 1891. The policy of holding frequent normal classes for the teachers of the grammar and primary schools has been followed with good results, and will be continued. Toward the close of the school year 1891-92 the experiment was made of examining and marking the grammar-school classes throughout the city, and of furnishing the master of each school with a detailed statement as to the proficiency and rating of the several classes under his charge. The results of this experiment were so stimulating and helpful that the practice has become a fixed policy.

The novelty of the situation, due to the introduction of an orderly, progressive system of instruction in gymnastics, has worn off for the most part; and the ancient misleading notion that physical training is chiefly useful to afford an easy and inexpensive vent for the ticklesome "animal spirits" of tired and restless children and to enhance the liveliness and attractiveness of school exhibitions has been dissipated to a considerable degree, and bids fair to disappear utterly — at least among the teachers — as time goes on. Increased experience on the part of the teachers in conducting class-exercises in gymnastics at the word of command, and their growing familiarity with the aims and methods peculiar to the Swedish school-gymnastics, have led to marked improvement in the manner and results of their instruction. This improvement has taken place all along the line, but has been particularly marked

and gratifying in certain schools and classes in which comparatively feeble interest in the new gymnastics was manifested at the outset.

My main aim is to secure steady, sustained, and increasingly intelligent effort on the part of the class-teachers, so that gymnastics shall become a regular, inevitable part of the daily course of instruction, receiving due attention, no more, no less. To this end, now that the mass of the teachers have acquired a fair amount of technical skill in conducting gymnastic instruction, I propose to throw greater stress than seemed advisable at first upon the principles of physical training and its relations to other branches of instruction.

The full and lasting success of Boston's present tentative effort to profit by the example and experience, in the field of physical training, of other cities and countries will depend very largely upon the character of the support given to the department of physical training in the Boston Normal School. This school is conspicuous, in its class, by reason of the fact that its managers have taken measures to provide its pupils with theoretical and practical instruction in Swedish school-gymnastics, which measures have been cheerfully seconded hitherto by the School Committee. But the department is still in embryo, and its expansion and efficiency have been hampered by the crowded state of the curriculum and the insufficient resources of the school. Provision has been made, however, in framing the new course of study for the Normal School for better instruction in gymnastics than was formerly practicable. Gymnastics has been placed in the list of electives, and twelve members of the class of 1893-94 availed themselves of the opportunity to elect it as a special study. Experience shows that the corridors of the Normal School are a poor substitute for a well-fitted gymnasium. It is wisely proposed to include such a gymnasium in the projected extension of the Normal School building. At the suggestion of the head-master of the school, I have prepared sketch-plans for such a gymnasium. If a well-equipped gymnasium be provided it will add greatly to the usefulness and efficiency of this department, especially if the recently authorized experiment in developing departmental teaching in the grammar schools shall prove a success, and lead to a new departure in the management of those schools.

At the invitation of Dr. Dunton, the principal of the Normal School, and with the consent of the Committee on Hygiene and Physical Training, I have helped to frame the elective course of study in gymnastics, already alluded to, and have taken part in the instruction given in accordance with it.

Considerable progress has been made in the past two years towards unifying and simplifying the practice of gymnastics in the classes as regards the times set for exercise, the amount of time de-

voted to instruction and practice, and the number and selection of the "Days' Orders" attempted. There is now much less diversity in these matters than obtained at first. Having, by periodical circulars of inquiry, practically determined what may fairly be expected and exacted of the several classes, I propose to promulgate a provisional course in gymnastics for the guidance of the teachers during the ensuing year, or so long as it may be found to work.

In January, 1891, as appears from a statistical inquiry made at the time, only 79.2 per cent. of the grammar and primary school teachers professed to teach Swedish gymnastics in 1,065 classes, while 20.7 per cent. taught "mixed" forms of gymnastics. In January, 1893, mixed gymnastics had practically disappeared, and 1,098 teachers were returned as teachers of the required Swedish gymnastics. The following table affords a comparative view of the results of each inspection and rating of the 55 grammar schools, by schools and divisions. The epithets "excellent," "good," etc., are based on the average mark of the school, which is obtained by dividing the sum of the division-marks by the number of the division-marks. Each division-mark is also an average of marks touching five distinct particulars, viz., position, steadiness, precision, correctness, commands.

TABLE I.

SHOWING COMPARATIVE RATING OF THE FIFTY-FIVE GRAMMAR SCHOOLS, IN PHYSICAL TRAINING, 1891-1894.

		FIRST INSPECTION IN 1891.		SECOND INSPECTION IN 1891.		THIRD INSPECTION IN 1892.		FOURTH INSPECTION IN 1893.		FIFTH INSPECTION. IN 1894.	
		Number.	Per cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
By Schools.	OLD SCALE.										
	Excellent, 1.00-2.00..	8	14.5	8	14.5	39	70.9	53	96.3	54	98.1
	Good, 2.01-2.50..	18	32.7	20	36.3	16	29.0	2	3.6	1	1.8
	Passable, 2.51-3.00..	17	30.9	20	36.3	0	.....	0			
	Poor, 3.01-6.00..	12	21.8	7	12.7	0	.....	0			
		55		55		55		55		55	
	PRESENT SCALE.										
	Excellent, 1.00-1.50,					5	9.0	15	27.2	20	36.3
	Very good, 1.51-1.85,					19	34.5	31	56.4	25	45.4
	Good, 1.86-2.20,					24	43.6	9	16.3	10	18.1
Passable, 2.21-3.00,					7	12.7	0	.....	0		
Poor, 3.01-6.00,					0	.....	0	.....	0		
By Divisions.	OLD SCALE.										
	Excellent, 1.00-2.00..					55		55		55	
	Good, 2.01-2.50..					342	61.5	466	83.2	499	85.7
	Passable, 2.51-3.00 ..					179	32.0	85	15.1	75	12.3
	Poor, 3.01-6.00 ..					29	5.2	6	1.07	6	1.0
						6	1.7	3	0.53	2	0.3
	PRESENT SCALE.										
	Excellent, 1.00-1.50,					556		560		582	
	Very good, 1.51-1.85,					104	18.7	217	38.9	260	44.6
	Good, 1.86-2.20,					150	26.9	145	26.2	169	29.0
Passable, 2.21-3.00,					186	33.4	163	29.1	120	20.6	
Poor, 3.01-6.00,					110	19.7	30	5.3	30	5.1	
					6	1.0	2	0.3	3	0.5	
					556		560		582		

In 1892 the average school mark was 2.05, and 42 schools were rated above the average and 13 below. The average mark was 1.65 in 1893, when 27 schools were rated above and 28 below the average, all 55 schools being above the average of 1892. In 1894 the average school-mark was 1.60, which mark was exceeded in the case of 26 schools, and unattained by 29 schools. In 1894 31 schools were rated above the average for 1893 and 54 above the average for 1892; while 24 schools were rated below the average for 1893 and one below the average for 1892. These results warrant the conclusion there has been marked improvement in gymnastic instruction in the grammar schools during the last two years. The progress made in the primary schools, though less marked for obvious reasons, has been fairly satisfactory.

GYMNASTIC INSTRUCTION MORE GENERAL AND EFFICIENT.

The "provisional course in gymnastics for the guidance of teachers," alluded to above, was promulgated early in this year and is working so satisfactorily that it is likely to continue in force indefinitely. It consists of a schedule of "Required and Optional Days' Orders," varied in number and difficulty according to the grade and class of the pupils for whom they are prescribed. Since assuming charge of this department, it has been my custom to call for a statistical return showing the amount and character of the gymnastic instruction given in each class during the month of January of each year. The returns for January, 1895, are most satisfactory, since they show that Swedish "free standing movements" are now taught and practised throughout the primary and grammar grades, and that the requirements of the schedule of Days' Orders are very generally complied with. In this I find encouraging evidence of progress. And I take pleasure in expressing my high appreciation of the readiness with which the principals of schools have seconded my efforts and recommendations and of the zeal and fidelity shown by the class-teachers in giving gymnastic instruction.

No new subject or new method of instruction in an old subject can be injected into a course of study after the manner in which Swedish school-gymnastics were introduced into the Boston schools by the School Committee of 1890, without

causing more or less disturbance and jar. It has been my object from the outset to adapt the work of this department so far as possible to existing conditions, and to derange and jostle the existing school machinery as little as possible. I believe that my efforts in this direction have met with a fair measure of success. It is certain that there has been marked and steady improvement in the conduct and performance of our school-gymnastics during the past four years. But the necessity for giving normal instruction to the teachers, and for aiding them by means of suggestion and criticism in the school-room still exists, and must continue to exist so long as the corps of teachers is largely made up of persons who have passed through the normal school course without being called upon to learn or apply even the elementary principles of physical training. Comparatively few city and State normal schools offer courses in genuine physical training. Hence the multiplication of summer and private adventure schools in this field.

INSTRUCTION OF TEACHERS.

The results of the annual inspection and rating in gymnastics of the classes in the grammar schools, made towards the close of 1894, have been used as heretofore by Mr Nissen, the assistant in this department, as the basis for giving special help and criticism in the class-room to the teachers standing in greatest need of such aid. As during last year, so this year Mr. Nissen has devoted a considerable amount of time to the special assistance of primary teachers in their class-room work. Since the Christmas holidays normal classes have been resumed. At present primary school teachers are not required to attend them. With a view of giving variety to the gymnastics practised by the first and second classes of the grammar grade, and to improving the style of marching and filing in the halls, corridors, and yards, I have instituted for certain selected teachers a special normal class in marching and floor work, which is at present conducted by Mr. Nissen

in the drill hall of the English High School; the class meets for an hour once a fortnight. Six meetings have been scheduled; teachers attending these classes are excused from attending such normal classes in gymnastics as may occur during the period Feb. 15 to April 26, 1895.

PHYSICAL TRAINING IN THE HIGH SCHOOLS.

In my last report I called attention to the fact that physical training in the high schools for girls had been largely left to take care of itself, and had not been respected, in most cases, as a coördinate branch in the required course of study, which provides that high school girls shall devote the same amount of time to gymnastics that the boys give to military drill; viz., two hours weekly. My relations to physical training in the high schools were referred to as follows:

As Director of Physical Training I am directly responsible to the Committee on Hygiene and Physical Training; but inasmuch as the jurisdiction of that committee over physical training in the high schools appears not to be altogether clearly defined, my relation to physical training in those schools is somewhat anomalous, not to say embarrassing. I make it a rule, however, to inspect the classes from time to time, and to comply as far as possible with all requests from the headmasters for aid or advice with regard to instruction in gymnastics, though I do not consider myself responsible for the work done in the high schools to the same extent as for that done in the lower schools over which the Committee on Hygiene and Physical Training exercise undisputed jurisdiction.

It seems to me to be extremely desirable, and in most cases practicable, that the instruction given in gymnastics in the high schools should be thorough and varied; that it should be adapted to the peculiarities and adequate to the needs of adolescents; and that it should constitute a distinct advance beyond the grammar-school course in gymnastics, which has hitherto been confined to free standing movements. It is impossible to secure these ends without proper apparatus and competent teachers.

The conditions alluded to above remain unchanged in most respects. I would respectfully repeat the following sug-

gestions made on page 107 of my last report, as tending to improve the efficiency of physical training in the high schools:

(1) That the Committee on Hygiene and Physical Training and the Committee on High Schools take measures to arrive at an understanding with regard to the nomination and supervision of teachers of physical training in the high schools; (2) that the Committee on Hygiene and Physical Training and the Committee on High Schools take concerted action towards preparing a programme for each high school, in accordance with the course of study, so far as the requirements of the same in regard to physical training are concerned.

Speaking generally as regards the high school for girls, it may be said that less time is devoted to gymnastics this year than last in those schools. The explanation of this is to be found in the unusually congested state of certain schools, and in the makeshifts which it necessitates, *e.g.*, in the Dorchester and West Roxbury High Schools. But I am convinced that in certain other cases more effectual measures might be taken to comply with the course of study. The completion of the new building for the Brighton High School will doubtless enable the principal of that school to secure two hours of instruction in gymnastics per week, if, as I presume, the City Architect has planned a gymnasium for the girls in addition to a drill-hall for the boys. It was found necessary, early in the year, to turn a large part of the hall of the Dorchester High School into recitation-rooms, by the putting up of partitions; consequently gymnastics have been suspended for the present in that school. I am informed that the Committee on High Schools has decided to appoint a special teacher of gymnastics in the Roxbury High School for the ensuing year. I venture to express the hope that adequate measures will be taken also to put this important school, which has not far from three hundred girls among its pupils, on an equality with the Charlestown High School, in respect to facilities for apparatus gymnastics.

Under Miss Towne, in the school last named, the gymnastic course continues to improve and is characterized by increas-

ingly good results, which is in some measure due to the fact that the time-requirement of the course of study is carried out. The recent order of the School Committee regulating the character of the lunches offered for sale in the high schools owed its initial impulse to Miss Towne, who called my attention to the fact that pies, pickles, and candy constituted too large a proportion of the edibles exposed for sale in that school. Deeming the matter of some importance, I brought it to the attention of the Board of Supervisors, and of the Committee on Hygiene and Physical Training, by whom the School Board was induced to provide a remedy.

In September last Miss Ruth B. Whittemore, a graduate of the Dorchester High School and of the Boston Normal School of Gymnastics, was appointed, on the nomination of the Committee on High Schools, special teacher of vocal and physical culture in the Girls' Latin School. Since Jan. 28, 1895, Miss Whittemore, by permission of the Committee on High Schools, has also had charge of the girls' gymnastics in the East Boston High School, and with manifestly good results.

SUPERVISORS' EXAMINATIONS.

For the last three years physical training has been placed by the Board of Supervisors in the list of electives open to candidates for certificates of qualification. Thus far but one person, a candidate for a certificate of the third grade, at the examination in August, 1894, has chosen physical training as an elective subject. The candidate in question was strictly examined in the theory and principles of the subject, and, as is my custom in such cases, was also required to conduct a class in Swedish exercises, with apparatus, in the gymnasium of the Charlestown High School. I found her qualified "to pass." The fact of her being a graduate of the State Normal School, at Bridgewater, Mass., is worthy of special mention.

At the request of the Board of Supervisors I prepared the

questions in required and elective biology, botany, and zoölogy for the examinations conducted in August and September, 1894, marked all the papers handed in on these subjects, and interviewed such of the candidates as came up for special examination in those subjects. Several of the candidates were of unusual promise, and showed that they had been trained to give better instruction in their subjects than is at present provided for or allowed in our high schools and normal school.

THE NORMAL SCHOOL.

The general and special work in physical training in the Normal School continues in the faithful charge of Miss Laura S. Plummer, who does as effective work as the restricted resources of that school will permit. The pupils of that school cannot be as well trained in gymnastics as in kindergartening and Sloyd so long as the school has no laboratory or gymnasium, and is not provided with an adequate supply of illustrative apparatus for teaching purposes. The number of pupils in that school who have chosen physical training as a special elective study is the same as last year; viz., twelve. My lectures to this class began on Feb. 4, 1895, and will continue till the close of the year at the rate of one a week. The character and purport of these lectures is indicated by the following list of topics: The Modern Doctrine of the Human Body; School Hygiene; The Physiology of Nerve and Muscle, and its Bearing upon the Education of Children and Adolescents; The Nature and Effects of Physical Training; Comparative View of the Principal Systems of Physical Training; Practical Hints on Teaching School Gymnastics.

Early in the current year the teachers in charge of physical training in the Normal School and the Charlestown and West Roxbury High Schools expressed the desire to make certain measurements in connection with the physical examination of their pupils. As the undertaking met with the approval

of the principals of the schools in question, and the pupils' participation in it was wholly voluntary, I have encouraged its prosecution. There is abundant evidence that such procedures serve to awaken a livelier interest on the pupil's part in personal hygiene and physical training, and are helpful to teachers as an aid in the guidance and admonition of their pupils.

PHYSICAL EXAMINATIONS.

Thanks to the ready kindness of Dr. H. P. Walcott, chairman of the Massachusetts Board of Health, three sets of measuring appliances, including scales, were put at my disposal. Two of these sets have been put to good use in the schools above named, and the third set has been assigned to Mr. Ripley, principal of the Bigelow School, to enable him to carry out his plan of periodically weighing and measuring the boys in the Bigelow School. If by repeated observations on the same individuals during a series of years Mr. Ripley shall be able to determine the annual growth-rates of so large a number of boys as are found in his school, his results will be of great practical value, and will constitute a genuine contribution to science as well. Anthropometrists are now in the possession of a large amount of data derived from measuring and weighing many school children and youth; but data obtained by the individualizing method, *i.e.*, by subjecting the same individuals to repeated observations during a series of years, are rare and greatly needed.

THE INTRODUCTION OF ADJUSTABLE DESKS AND CHAIRS.

Since my last report the new buildings of the Cudworth Primary School, in East Boston, and the Choate Burnham Primary School, in South Boston, have been occupied. They are furnished with adjustable desks and chairs. During the last summer vacation the first class of the Bennett Grammar School, in Brighton, was supplied with adjustable furniture,*

*That is to say the desk boxes and chairs already in use were placed upon adjustable standards.

and a considerable number of the same sort of desks and chairs have been placed in various rooms of the Robert G. Shaw Grammar School by the order of the School Committee, to obviate the inadequate supply of properly assorted sizes of seats in that school. Counting in the Charles C. Perkins Primary School, in the Prince District, there are nearly 1,400 sets of adjustable furniture now in use in our schools. Rather more than half of that number are of the so-called Perry style; not quite one-half of the remainder were furnished by the Globe Desk Company; while of the residue one-half, enough to fill three rooms, were furnished by the Chandler and Bo-brick Companies respectively. If the School Committee holds to its present policy of furnishing new buildings with adjustable furniture, it is probable that between 2,600 and 3,000 adjustable desks and chairs will be required during the next twelve months towards fitting up school buildings now in process of erection or under contract.

In accordance with the order passed by the School Committee, Oct. 25, 1892 (see page 108 of my last report), it has devolved upon me to render advice and assistance to the principals for the purpose of securing the proper use of these new and improved styles of desks and chairs. Besides which I have been called upon to study the seating of the pupils in rooms recently fitted up for the use of primary pupils in the Agassiz, Dudley, Hancock, and Wells districts; to inspect the redistributed furniture in the Brimmer Grammar School; to report upon the misfitting of pupils in the Robert G. Shaw Grammar School, and to suggest a remedy for the same; and to furnish plans for seating the pupils in the Cudworth School mentioned above, and in the Oak-square Primary School, in Brighton. Necessarily, therefore, much of my time and attention have been occupied during the current year with various phases of the "seating problem."

THE PROBLEM OF SCHOOL SEATING.

Having had occasion to study somewhat closely the peculiarities, as regards construction, working, and effects, of the desks and chairs now in use, both fixed and adjustable, and being more than ever convinced that the present amount of unhygienic seating in our schools is so large as to constitute a serious obstacle to the legitimate success of the department of physical training; I feel called upon to devote the remainder of this report to questions connected with the seating of school children.

School seating is primarily a question in animal mechanics, and the rules which govern it must be based upon the laws of human anatomy and physiology. But the development of a strictly scientific and hygienically sound system of school seating has been halting and incomplete, particularly in this country, because scientists and educationists have been slow to perceive the full significance of the fact that the school population is made up of growing animals, whose growth-rates, in respect to length of legs and length of arms, as well as in respect to total height, differ in the two sexes and vary in each sex during school life. Moreover, the problem of school seating is complicated and rendered difficult by the predilection of teachers for certain conventional forms of procedure in the management and discipline of their pupils, and by the commercial exigencies which regulate the manufacture and sale of school furniture.

THE MECHANICS OF THE SITTING POSTURE.

The most searching and convincing researches in this connection are those of Prof. Hermann Meyer, of Zürich, whose paper, "Die Mechanik des Sitzens mit Rücksicht auf die Schulbankfrage" (Virchow's Archiv, Bd. XXXVIII., Heft. I., 1867), should be studied by all who undertake to pass critical judgment on the claims of alleged improvements in school chairs. As a succinct summary of Meyer's views is

found in Cohn's "Hygiene of the Eye in Schools," London, 1886, I have taken what follows from that work.

At the lower part of the pelvis are the two seat-bones (*tubera ischii*), or lowest parts of the great hip-bones. They are curved like a bow and rock easily. A line drawn through these two seat-bones may be called the "seat-bones' line." The centre of gravity of the human body is situated in front of the tenth chest vertebra; a line drawn perpendicularly from that place to the ground is the *line of gravity*. Now, it is only when the line of gravity falls exactly upon the seat-bones' line that the body can remain at rest in a sitting posture. The slightest movement of the trunk that displaces the centre of gravity, and therefore also the line of gravity, must bring the line of gravity either before or behind the seat-bones' line, and then a third point must be sought for which will secure equilibrium in a sitting posture in spite of the instability of the seat-bones. This third point may be situated either before or behind the seat-bones' line. We must therefore distinguish between a forward and a backward sitting posture. In the *forward* sitting posture the third point of support is furnished by the *front edge of the seat*. The line of gravity may now fall on any part of that surface which is determined by the seat-bones and the front edge of the seat; the nearer, however, it approaches to the latter, the more easily is the equilibrium disturbed. A quiet sitting posture, therefore, will only be possible when the surface of the seat on which the thighs rest is very *large*; things are best when this surface extends forward as far as the knees. If, moreover, the knees being bent at a right angle, the feet are planted firm and flat on the floor, their resting-places form auxiliary surfaces of support.

No one, however, can remain in the forward sitting posture for any length of time, because the trunk is not immovably fixed in the hip-joint, but is joined movably to the thigh. The attitude, therefore, is only maintained by very complicated work of the pelvic muscles. These muscles grow fatigued and the trunk, obeying the law of gravity, would *fall forward* if the chest or arms did not support it by leaning against the desk. When we prop ourselves up with our arms, we in a manner catch the body as it falls forward.

In the *backward* sitting posture, in which the line of gravity falls *behind* the seat-bones' line, the third point of support, firmly connected with the seat-bones, is found in the end of the coccyx. The pelvis being now inclined backward, this point does not need to be determined, but is an immovable datum. But as the body, with this backward inclination of the pelvis, would have to fall backward its fall must be arrested by the back-rest. The lower down the back-rest is applied, the more

upright is the position of the pelvis and the trunk. Applied at the height of the last vertebra the back-rest allows the best upright sitting posture.

In writing the head is slightly bent forward on its horizontal axis, the arms are stretched forward and somewhat upward, and the body curved slightly forward; and thereby the centre of gravity is brought forward in front of the seat-bones' line. Any arrangement, therefore, which brings the centre of gravity further back will help the child to sit upright.

TYPICAL SITTING POSTURES.

There are, then, three typical sitting postures, in each of which the following general conditions obtain, viz.: the thighs are more or less fixed at a right angle to the trunk, the leg makes a right angle to the thigh at the knee, and the feet are placed flat upon the floor or a foot-rest. These are: (1) *the erect posture*, in which the line of gravity falls between the *tubera ischii*, when the muscles of the legs are relaxed and the rigid trunk is maintained in a position of mobile equilibrium, by a minimal amount of action on the part of the muscles of the neck, trunk, and pelvis; (2) *the forward posture*, in which the line of gravity passes in front of the seat-bones' line and the body is kept from falling forward on its rockers either by "the complicated work of the pelvic muscles," or by an anteriorly placed prop of some sort; (3) *the backward posture*, in which the line of gravity falls behind the *tubera ischii*, and the body is prevented from falling backward, either by the fixation of the trunk upon the thigh, the legs being kept extended, through the action of the flexor muscles of the hip and the extensors of the leg, or by means of a prop supporting the pelvis and the back.

THE CHAIR-MAKER'S PROBLEM.

Expressed in general terms the problems which confront the designers and makers of chairs are: (1) to provide a base of support or seat having a sufficient and intelligently proportioned area, *i.e.*, a bottom whose length and breadth are proportional to the under surface of the thighs and buttocks of the person to be seated; (2) to place the seat

at such a height from the floor, or foot-rest, that the sitter's feet may rest flat upon the floor or foot-rest when his legs make a right angle at the knee with his thighs; and (3) to provide the seat with a back that shall support the sitter's back whether he be quiescent or be actively engaged, *e.g.*, in writing or drawing. But a properly constructed chair may be rendered nugatory or even positively harmful, if its occupant is forced to work at a desk whose upper surface is too high or too low, or insufficiently sloped, or whose under surface exercises a cramping influence upon his knees or thighs, or if he is given a desk which, though correct in its proportions, is so placed with relation to his chair that the backward sitting posture is beyond his reach, and the forward sitting posture can only be maintained at the expense of prolonged and wearisome muscular exertion.

Again, the occupant of a correctly designed and properly constructed chair may be prevented from reaping its benefits through the stupid or injudicious requirements of his teachers as to the manner of using his chair and desk during recitation, when studying, or when engaged in the act of writing or drawing.

NORMAL DIMENSIONS OF DESK AND SEAT.

Figure 1, adapted from a similar cut in Eulenberg and Bach's "Schulgesundheitslehre," Berlin, 1891, p. 217, will be of assistance to us in further discussing the normal dimensions of desks and seats. It represents the dimensions recommended by Eulenberg and Bach, for a seat and desk adapted to a pupil 175 centimeters (68.89 inches) in height. R, the total depth of desk and seat, equals 78 centimeters. A, the outer height of the desk, equals 84 centimeters. The inner "*height of the desk*," equals the sum of the lines C and M D, *i.e.*, 78 centimeters, — C, "*the height of the seat*," being 48 centimeters ($\frac{3}{4}$ of the total bodily height), and M D, technically termed "*the difference*," being 30 centimeters, or about 17 per cent. of the total height. The width of the

horizontal part of the desk L equals 10 centimeters and that of the sloping part K equals 35 centimeters. The book-shelf N is placed 25 centimeters ($\frac{1}{4}$ of the body-height) below the surface of L, and is 22 centimeters ($\frac{1}{8}$ of the body-height) in width. C, the "height of the seat," equals 48 centimeters ($\frac{3}{4}$ of the body-height). The length of the seat equals 58 centimeters ($\frac{1}{2}$ the body-height). E, "depth or breadth of seat," equals 35 centimeters ($\frac{1}{5}$ the body-height). The total height of the back-support equals 44 centimeters ($\frac{1}{4}$ the body-height); G, the total "height of cross-rest" (S) for the small

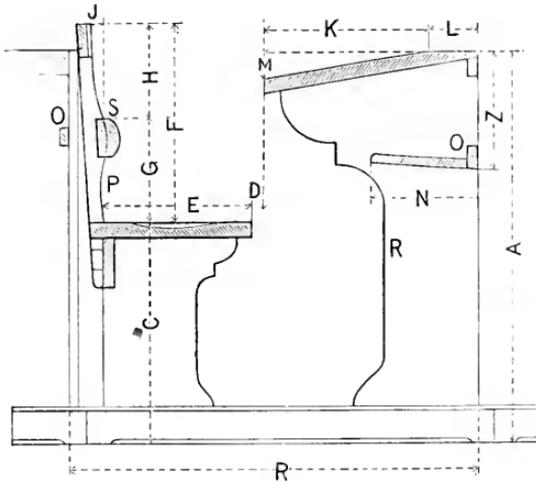


FIGURE 1.

of the back, being 22 centimeters ($\frac{1}{8}$ the body-height). The back-support slopes backward, it will be noted, some 3 centimeters, so that J, the shoulder-rest, cannot come into contact with the pupil's back unless the upper part of the pupil's trunk is slightly inclined beyond the perpendicular line J S. This is to enable the pupil to assume the so-called "back-sitting" or "reclined position" which is strongly advocated by Prof. A. Lorenz, of Vienna. Eulenberg and Bach recommend hollowing out the seat to a depth of $1\frac{1}{2}$ centimeters as shown at E, instead of inclining the surface of the seat from front to rear. It will be observed that the line M D, techni-

cally called "*the difference*," does not strike the edge or surface of the seat. The result is that "*the distance*," *i.e.*, the distance between the rear edge of the desk and the forward edge of the seat, is a plus or positive distance, which was usually found in school-seating twenty-five years ago, but which is almost universally condemned by modern authorities, since it involves the necessity of leaning forward in writing, which is sedulously to be avoided. In the present case the plus distance noted is a concession to convenience, since it is easier for a pupil to get in and out of his seat when the distance is plus than when it is minus; *i.e.*, when the line M D falls inside the line made by the front edge of the seat, or when the distance is nil; *i.e.*, as when the line M D just strikes that edge.

CARDINAL POINTS IN DESK CONSTRUCTION.

Cohn, in his work already cited, says:

The points which are of main importance in school-desks are four: the difference, the distance, the seat-height, and the desk-slope.

(1.) *The difference*, that is, the vertical distance, between desk and seat. (See M D, Fig. 1.) The higher the desk-surface the nearer it is to the eye of a straight-sitting child. Thus the greater the difference the more the child will have to exert his accommodation. Now, the writing ought to be from 35 to 45 centimeters [14-18 inches] from the eye, for that is about the distance of a child's eye from the elbow when hanging straight down, and the text of the school-books should be easily legible at that distance. If, however, the difference is great, so that the elbows have to be considerably raised in writing [*as is generally the case in our Boston schools*] the shoulders will not hang from the body, but the body from the shoulders, and the writing hand will be too near the eye.

(2.) An exceedingly important correlative of the difference is the horizontal *distance* between desk and form. (See D, Fig. 1.) In the right arrangement of distance lies the kernel of the school-desk reform. The greater the distance the more the body will have to fall forward of the seat in order that the arms may reach the paper; and the more will the head be obliged to drop and to get near the writing. Thus, whenever we intend to sit upright at a table for a considerable time, we instinctively push the chair so far under the table that the table's

edge is vertically over the chair's edge, or, if possible, overhangs it by an inch. *For the upright position of the head, therefore, the distance must be nil or, still better, negative.* . . . I once proposed a minus distance of one inch; but after further observations I think that the upright position is sustained still longer when the thigh is supported still further towards the knee, and therefore I agree with Buchner, who requires a minus distance of two inches.

Here every inch is of consequence. No physician has ever opposed the requirement of nil or minus distance . . . the opposition has come solely from *individual teachers*.

(3.) *The height of the seat.* (See C, Fig. 1.) If the legs are not bent at a right angle at the knee and the feet resting with the entire sole flat upon the foot-board (or floor), the feet must be left dangling in the air. Then the child soon grows tired. He tries to reach the floor with the tips of his toes at least, and in so doing he bends his thigh downward, slides forward on the edge of his seat, and presses his chest on the edge of the table. The necessary result is a further collapse of attitude. (In all this we are leaving quite out of account the hindrance to breathing and the compression of the intestines.) *The height of the seat must accordingly be equal to the length from the knee to the sole; that is, $\frac{2}{3}$ of the child's height.* The knee must be bent at a right angle. No attention is paid to any of these proportions in the old school-desks.

(4.) *The slope of the desk.* (See K, Fig. 1.) We can read easily, without any stoop of the head, from a book placed *vertically* before us. If the book slopes back at an angle of 45 degrees with the horizon, reading is equally easy, because the eyes can be directed downward without bending the head forward. But if the book lies flat and the reader sits upright, the eyes are turned downward very far. This continued for any considerable time is very tiring, and so we prefer to bend the head forward. It follows that the desk must not be horizontal, but sloped. A slope of 45 degrees, however, is not to be recommended, because it would make writing difficult, and the writing materials would fall down. A slope of 1 in 6 is the best. The old school-desks are all flat and therefore wrong.

The breadth of seat usually termed "*seat-depth*" (see E, Fig. 1) and the "*seat-back*" (see J P, Fig. 1) are of scarcely less importance than Cohn's "cardinal points" noted above. The seat-depth is determined by the length of the sitter's thigh, whose mean value, according to most observers equals $\frac{1}{5}$ the total height. Provided the soles of the feet can rest

flat upon the floor, a seat may be theoretically too narrow without entailing prejudicial effects; whereas, too deep a seat is to be scrupulously avoided as it prevents the sitter from availing himself of the support offered by the seat-back. That no one, not even a child, can maintain the erect sitting or the backward sitting posture for any considerable length of time without the aid of some sort of back-rest or prop, no longer admits of argument. This matter of back-rest or seat-back is of so much importance that Professor Lorenz, in his admirable "Die Heutige Schulbankfrage," Wien, 1888, declares that the present school-seat question is "first of all a question of seat-back."

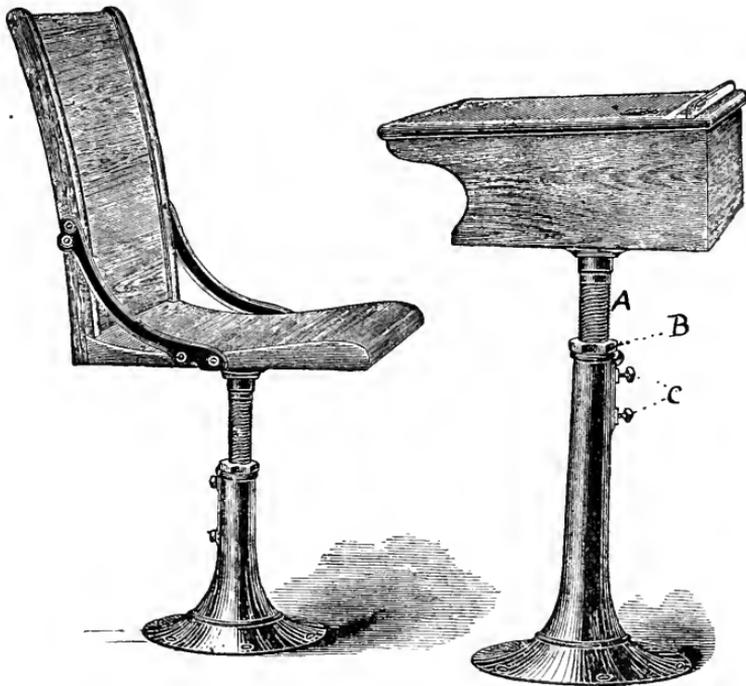


FIGURE 2.

THE SEAT-BACK.

Seat-backs may be continuous from top to bottom and as wide as the seat is long (see Fig. 2); or they may consist of one or more transverse rests, as in Fig. 1, with free spaces

below or between them ; or they may consist in their essential features of a transverse shoulder-rests borne by or connected with an upright back-prop (see Fig. 3) as is the



FIGURE 3.

case in most of the chairs used in our schools. Considered chiefly with regard to the height of the prop to support the trunk in the backward-sitting posture, the various kinds of seat-back present three principal types, viz. : (1) the low-hip or pelvic rest, when the support (see S, Fig. 1) extends no higher than the upper edge of the pelvis ; (2) the high-hip or loins-rest, when the prop is so placed as to support the back in the region of the lower loin-vertebræ ; and (3) the so-called " high back-support " which reaches at least as far as the most prominent point of the curve made by the chest-vertebræ. The seat-back J P, shown in Fig. 1, belongs to the *third* type. Were its upper part, designated by the line J S, omitted, it would belong to the *second* type. As a rule, seat-backs of the first and second types are placed perpendicularly to the seat-surface, while those of the third type, as a rule, are more or less inclined backwards from the seat-surface, at least in their upper portion.

It is chiefly to the researches and inventions of the eminent orthopædic surgeons, Dr. Felix Schenk, of Bern, and Dr. Adolf Lorenz, of Vienna, that the school-seat constructed to give support to the back of the child in the "reclined sitting position" has come into vogue in Europe. The special purpose of this form of seat-back, whose essential characteristics are fairly well illustrated in Fig. 1, is to afford adequate and comfortable support to the back of the child whether he be writing, studying, or simply engaged in "sitting still." By reason of the backward inclination of the support, above the loins-rest S, it is claimed that the upper portion of the back of the sitter is pressed by its own weight against the support and not simply brought into contact with the upper rest. In other forms of the same type of seat-back, the back-support is continuous and is curved so as to conform to the S-form of the backbone, in the chest and loins regions.

Fig. 1 represents the seat as being placed at a slight plus distance, both seat and desk being immovable. This is a compromise between the demands of hygiene and the requirements of convenience. To enable the child to maintain the reclined sitting position when engaged in writing, the seat should be at a considerable minus distance from the desk. This is usually effected by rendering the desk-top movable so that the distance may be made plus or minus at the pleasure of the sitter. It should be said that the Schenk seat is somewhat sharply sloped from front to rear.

MALPOSITION IN WRITING.

Cohn (op. cit., p. 95) quotes from "Das Kind und der Schultisch," Zürich, 1865, by Dr. Fahrner, the following description of the mechanism of the collapse of the child's posture in writing, consequent upon the use of an unsuitable desk and seat:

Before the writing begins the children sit perfectly upright with both shoulder-blades thrown back equally (that is, so that the shoulders are parallel to the edge of the desk), and the slate or copy-book is so placed

before the child that its left margin lies a little to the left of the middle of the body. *But as soon as the writing begins all the children move their heads slightly forward and towards the left, without perceptibly altering their attitude in any other way. Soon, however, head after head drops down with a rapid jerk, so that the neck now forms a considerable angle with the rest of the spinal column. In a short time the upper part of the back also collapses, so as to hang from the shoulder-blades, which in their turn are supported by the upper arm. From this moment the scholars are divided into two groups, according to the part of the slate at which they happen to be writing.* Those who are writing on the upper half of the slate or at the beginning of the line are able to support themselves on *both elbows*, and they let their chests sink straight forward against the table. The back in this way becomes curved simply; it becomes what I call a *round back*. The eyes are three or four inches distant from the desk and look straight down upon the writing. For the points of support the child uses the front of the chest, the left elbow (which is constantly moved outward till it is a long way from the body,) and the right fore-arm anywhere between the elbow and the wrist. But those scholars who at the critical moment are writing at the end of the line or near the bottom of the slate cannot any longer support themselves on the right elbow, because it too much overhangs the table and is too far from the body; they are therefore forced to lean on the left elbow alone, and in so doing not only to bend the spinal column, but to twist it on its axis towards the right. The position is that of the *skewed back*. The points of support are the left side of the chest and the left elbow, which lies very much to the left of the body and forward from the body; the head is bent towards the left shoulder; the right arm, with its shoulder-blade standing out like a wing, rests anywhere between the elbow and the wrist; the eyes, now frequently only from two to three inches distant from the writing are rolled considerably towards the right and almost squint over the paper. . . . In the normal position the head has its centre of gravity resting upon the bony framework of the spine and is supported by it, so that the muscles of the neck have nothing to do but to balance the head. *That slight stoop forward, however, is enough to push this centre of gravity over the front edge of the spinal column.* The *muscles of the neck* must now hold up the head if it is not to drop downward. The work thus laid upon them is considerable; the muscles of the neck are accordingly soon tired out, their tension is relaxed, and the work now falls upon the *muscles of the back*; these in their turn are soon tired out and the child is then forced to lean on other points of support. He tries first one or both elbows. The elbows support the upper arm, the upper arm supports the shoulder-blades, and

the body hangs upon the shoulder-blades until they also give way and the chest must needs find a stay and support at the edge of the desk.

VIEWS OF LORENZ AND SCHENK.

It is now generally held by competent authorities, *e.g.*, Schenk and Lorenz, that collapse of the writing position due to bad seating tends to produce the *round-backed* or *fatigue posture* or the *skew-backed* or *scoliotic position*, or both; and that each of these undesirable postures is bad for the eyes as well as the back. The main objects of the movement for school-desk reform and the introduction of vertical writing — which movement having spread from Switzerland and Germany has at last begun to be felt in this country and city — are the prevention of impaired vision and of scoliosis (lateral curvature of the spine). It is noteworthy that both Lorenz and Schenk distinctly prefer furniture that is more or less adjustable to fixed seats and desks, for the purpose of protecting the eyes and backs of school children from the untoward effects of their occupation. In this connection the following may serve as a condensed statement of Lorenz's views:

In general, fixed furniture cannot be recommended, though it may be tolerated under certain restrictions. It is needful above all not to prolong the period devoted to writing, since it is impossible for the seat-back to support the writer's back in a chair fixed, for the sake of convenience, at a positive distance 1-2 centimeters (.4-.8 inch) from the desk. During the intervals between writing periods, it should be possible for the child to rest his back comfortably against a properly curved high-back-support, having an inclination of 10° - 15° .

The posture of the child in writing is to be judged differently from that of the adult. The forward sitting position, in which the trunk is somewhat bent forward and supported on the desk by the elbows, which we adults prefer, almost without exception, is a dangerous one for the child, since it tends to injure his eyesight through the sinking forward of the head when the neck and trunk muscles become fatigued, and also leads to the production of "round-back." The upright (military) sitting position, in seats with perpendicularly placed low-hip or hip and loin supports is too rigorous, calls for an excessive amount of muscular

exertion, and does not afford sufficient support to the back of the child either in the writing-periods or in the intervals between them. The reclined-sitting position, in which the back is supported at all times by a properly curved back-support inclined backwards from the inclined seat-surface at an angle of 10° - 15° is to be recommended as the best and simplest means of preventing impaired eyesight and of combating the dangers of *rounded back* and *skewed back*. For one who writes in the reclined position, a relatively very large minus distance of 7-12 centimeters ($2\frac{3}{4}$ - $4\frac{3}{4}$ inches) is demanded, together with an increased desk-slope, to correspond to the inclination of the seat-back. Through devices for changing from plus to minus distance and *vice versa*, freedom of movement is assured to the trunk. For purposes of adjustment a movable desk or desk-top is preferable to a movable seat, since if the latter is used the negative distance must be maintained in the intervals between writing-periods, which may prove an inconvenience. The adjustability of the desk-plate is preferably to be secured through contrivances which produce a to and fro sliding motion.

It is evident from Schenk's latest paper "Zur Schulbankfrage" (see "Zeitschrift für Schulgesundheitspflege," No. 10, 1894) that he does not altogether agree with these views of Lorenz, which were published in 1888, as to the superiority of the reclined-backward-sitting position in writing as a means of preventing the skew-backed malposition; though he still holds that the reclined seat and seat-back, which he himself introduced some years since, afford an efficient means of preventing the collapsed attitude of fatigue, *i.e.*, is the rounded back. Schenk's original desk and chair were fixed, it may be remarked. His so-called "Simplex" school-seat, which is described at length in the article cited above, is movable in respect to seat, desk-top, and foot-rest. It approximates more nearly to an automatically adjustable seat and desk *suitable for occupants of various sizes* than any adjustable school-seat hitherto offered the public on either side of the ocean, so far as I can learn. Schenk's "Simplex" desk and chair embody the results of his elaborate experimental study of the mechanism of writing with copy-books in different positions. His claim that they afford an effectual means of preventing the skew-backed malposition in writing is plausible

and deserving of careful study. His arguments in favor of placing the paper or copy-book so that its edges shall be parallel with the corresponding borders of the desk-top, in the so-called straight position, appear to be quite conclusive. He favors vertical writing as a powerful influence towards habituating the pupil to maintain the correct position in writing; *i.e.*, squarely facing the desk without any deviation of the spine to right or left or any rotation of the shoulders or the pelvis on the long axis of the body. Schenk's rules for the position of the paper are as follows: *The straight position is necessary both in sloped and vertical writing. In vertical script the middle, in oblique script the beginning of the line of script should lie in front of the median line of the body.*

Schenk holds, on the strength of his ingenious and searching measurements of the amount of distortion in shoulders, spine, and pelvis conditioned by various positions of the paper with relation to arm and forearm, that *the greater the abduction of the upper arm from the trunk, the more crooked, bent, and twisted is the carriage of the body.* "The best writing posture, then, is that in which the abduction of the arm used in writing equals zero; *i.e.*, when the upper arm lies lightly against the body."

Schenk's views may be condensed as follows :

The school-seat is adjusted to this best position of the body, when it brings the paper in front of the body in such wise as to necessitate rotation only, without abduction of the upper arm in the shoulder-joint, during the act of writing a line of script. This is possible only when *the horizontal distance between the desk and the back of the seat*, which I would call "distance," — even though it be contrary to the usage followed with regard to this term hitherto, — equals the length of the forearm (elbow to wrist) of the person writing, and when the so-called "difference" is equal to the height of the elbow, when hanging straight downwards at the side, from the seat. Since by chance this last-mentioned distance corresponds to the length of the forearm, we have the following very simple and valid formula for the construction of the school-seat, *viz.*: *Distance = Difference = Length of Forearm of the person writing*, when as I have said the term "Distance" denotes the distance between desk and seat-back. To the usual pedagogical and technical requirements

of a school seat, such as convenience in stowing the pupils' utensils; adaptation to the various uses and needs of the individual pupil, so as to avoid all interference with his neighbor; noiseless play of its movable parts, which must be so constructed so as to prevent pinching of the pupil's clothing or fingers; that it shall present no obstacles to the easy, daily cleaning of the floor; economy of floor-space, solidity, and cheapness — I would add a new one which seems to me of the very highest hygienic and pedagogical importance, viz.: *that every seat, with its desk, should be adjustable for any and all sizes of children.* The height of children of school-age varies between 90 and 175 centimeters (35.43 and 68.89 inches). Accordingly most current systems of school-seating provide 5–8 sizes of seats and desks, which gives under the most favorable conditions a new size for an increase of 10 centimeters (3.9 inches) in height. Inasmuch as children in a given class vary from 20–30 centimeters (7.8–11.7 inches) in height, three sizes of furniture are placed, as a rule, in each class-room. This is usually deemed sufficient.

But in truth it is quite otherwise. The smallest children are frequently found occupying the largest seats. Of careful fitting there is very little. Where are the children measured every six months in order to seat them in accordance with their growth in height? Where are the seats redistributed, if tall, middle-sized, and short pupils happen to be allotted to a class in numbers that are disproportionate to the quota of variously sized seats? Above all, where do we find hygienic insight and good will among the teachers, combined in the same school with facilities for fitting the furniture to the pupils? Certainly such instances are very rare. Here as elsewhere theory is agreed to and there it rests. The carrying out of the theory in practice is too troublesome and encounters too many obstacles of all sorts. This will continue until we have a school-seat which shall render the ranking of the pupil completely independent of the position of his seat; which shall permit the teacher to arrange his pupils so as to meet the demands of instruction, as he must do, for instance, in the case of short-sighted, deaf, or merely inattentive pupils, if they are to profit from his instruction. In short, we need a school-seat adjustable in a wholly automatic way to children of all heights. This is the principle on which my "Simplex" seat has been constructed, for whose use only one direction need be given by the teacher to the pupil in order to rectify the vicious writing posture. It is this: *take hold of the desk-plate in front of you and draw it towards you till your elbows touch the seat-back!* By this easy and simple means of adjusting the school-seat to its occupant we shall be able to combat the ill-conditioned writing posture (skewed-back) with the same success that has crowned our efforts to prevent the evil fatigue-position (rounded-back), through the "reclining" of the seat and seat-back.

GROWTH AND ITS BEARING ON SCHOOL SEATING.

The fact of capital and inexpugnable importance with regard to our school population is that it is made up of the growing young of the human species. Dr. Bowditch showed twenty years ago that the average yearly increase in height of Boston school children of five to fifteen years inclusive ranges between *one* and *three inches* per year. The importance, nay, the necessity, of providing children of all ages with easy-fitting head-gear, collars, overcoats, and shoes is tacitly admitted and generally acted upon. It is fully as important, to say the least, that they should be equally as well fitted in respect to their seats and desks, since under our compulsory education acts, neglect of school-seating practically amounts to condemning large numbers of pupils to deleterious "confinement with hard labor" without due process of law. The actual amount of misfitting in our schools, taking them as a whole, has not been fully determined, but Dr. Scudder's investigations and my own (see School Document No. 8, 1894, p. 112-115) leave no room for doubt that it is excessive and largely preventible.

An examination of our course of study in respect to the time devoted to sedentary and non-sedentary pursuits yields some interesting results, which I have brought together in the following table :

TABLE II.

SHOWING (1) THE RELATIVE AMOUNT OF TIME ALLOTTED TO SEDENTARY AND NON-SEDENTARY EXERCISES BY THE COURSE OF STUDY AND (2) THE ACTUAL TIME IN HOURS CALLED FOR BY THE SAME IN THE SCHOOL YEAR 1893-94.

	Sedentary Occupation.	Non-Sedentary Occupation.	Recesses.	Physical Training.	Manual Training.	Total.
Primary schools, Class III.....	1. 86%	14%	10%	4%	.....	100%
	2. 825.6	134.4	96.0	38.4	.....	960.0
Primary schools, Classes II. and I.....	1. 84%	16%	10%	6%	.....	100%
	2. 806.4	153.6	96.0	57.6	.....	960.0
Grammar schools.....	1. 88%	12%	7%	5%	(8%)	100%
	2. 844.8	115.2	67.2	48.0	(76.8)	960.0
Girls' Latin.....	1. 86%	14%	10%	4%	.....	100%
	2. 825.6	134.4	96.0	38.4	.....	960.0
High Schools.....	1. 82%	18%	10%	8%	.....	100%
	2. 787.2	172.8	96.0	76.8	.....	960.0

In the above table no account is taken of the Mechanic Arts High School or of the Normal School. Manual training in the grammar schools, excepting that given in the second class, *i.e.* 2 hours a week, or 8 per cent. of the school period per week, is practically a sedentary pursuit. That so much as 86 per cent. of the school period in the first year of the primary grade, and 84 per cent. in the second and third years of the same grade should be allotted to sedentary occupations, especially as the rudiments of penmanship are taught in the primary school, emphasizes the need of special attention in regard to the seating of primary school children.

TABLE III.

SHOWING (1) INCREASE IN HEIGHT OF BOSTON GIRLS AND BOYS, OF 5-15 YEARS, AND CORRESPONDING CHANGES IN DIMENSIONS CALLED FOR IN CHAIRS AND DESKS; AND (2) INCREASE IN CERTAIN MEASUREMENTS OF GIRLS AND BOYS OF 10-15 YEARS WHICH ARE USED AS STANDARDS IN "SIZING" CLOTHING, ETC.

1.	Total Height.		Height of Chair.		Difference.		Height of Desk.		Depth of Seat.		Height of Back-Rest.	
	1.		2.		3.		4.		5.		6.	
	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.
At 5 years .	41.29	41.57	11.25	11.34	7.01	7.06	18.25	18.40	8.25	8.31	5.16	5.19
At 15 years,	61.10	62.30	16.65	16.98	10.38	10.59	27.05	27.57	12.22	12.46	7.63	7.80
Increase 5-15 years..	19.81	20.73	5.40	5.64	3.37	3.52	8.88	9.17	3.97	4.15	2.47	2.61
Average yearly increase....	1.98	2.07	0.54	0.56	0.33	0.35	0.87	0.91	0.39	0.41	0.24	0.26

2.	Girth of Head. (Hats.)		Girth of Neck. (Collars.)		Girth of Chest. (Coats.)		Length of Foot. (Shoes.)	
	7.		8.		9.		10.	
	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.
At 10 years.....	20.7	21.1	10.4	10.9	24.4	25.6	8.3	8.3
At 15 years.....	21.7	21.8	11.9	12.6	29.1	31.4	9.3	10.0
Increase 10-15 years ..	1.0	0.7	1.5	1.7	4.7	5.8	1.0	1.7
Average yearly increase	0.20	0.14	0.30	0.34	0.94	1.16	0.20	0.34

The above figures are in inches.

The above table shows the extent of change in certain bodily measurements due to growth during the age period 5-15. The figures in column 1 are taken from Dr. H. P. Bowditch's tables; those in columns 2-6 are computed according to Eulenberg and Bach's scale (see page 172), in which height of chair equals $\frac{3}{4}$ body height; difference equals 17 per cent. of body-height; height of desk equals sum of differ-

ence and height of chair; depth of seat equals $\frac{1}{5}$, and height of back-rest (see Fig. 1) equals $\frac{1}{8}$ of body-height. The figures in columns 7-10 I have compiled from anthropometric charts compiled and published by Dr. D. A. Sargent, of Harvard University.

I have compiled and introduced this table for the sake of emphasizing the indubitable fact that it is quite as needful to have the desks and chairs of variously sized children fitted to their trunks and limbs as to fit their shoes to their feet or their collars to their necks. The table also suggests that desks and chairs, as well as collars and shoes, require to be made in girls' sizes and boys' sizes if an accurate and easy fit is to be secured, a suggestion which I shall take occasion to refer to further on.

To my mind the table suggests considerations in favor of adjustable over fixed systems of school furniture, but it also suggests the difficulty of constructing an automatically adjustable school-seat that shall precisely and surely fulfil all the requirements of children whose height of knee ranges between 11.25 and 16.98 inches, and whose length of thigh ranges between 8.25 and 12.46 inches.

REQUIREMENTS OF ADJUSTABLE FURNITURE.

The purpose of the foregoing discussion is to bring out the main factors which enter into the seating problem; to suggest their relation to each other; and to call attention to the best considered and most successful of the attempts thus far made towards solving the problem. It may be said with perfect fairness that the best European opinion is opposed to the use of school desks and chairs having no movable parts, which is tantamount to saying that the most competent authorities on school-seating have pronounced in favor of adjustable school furniture. Before proceeding to a comparative study of European and American systems of adjustable school furniture, it will be well to summarize the leading principles of seating in relation to the individual and class

needs of children. The child's height is a better criterion than his age in determining the dimensions of his seat and desk, which, to merit the designation "hygienic," must be so constructed as to obviate the strained and exhausting actions of the muscles of the eye, head, and trunk which are dangerous, as they tend to produce impaired vision, rounded backs, and skewed backs. To this end the seat must be provided with loin and shoulder rests that shall afford appropriate support to the child's back when he is engaged in drawing, writing, or ciphering, as well as in the intervals between those operations.

The *height* of the seat must correspond to the height of the child's knee; its *depth* to the length of his thigh; the *points of support* offered by the seat-back must be proportioned to the height of pelvis, loins, and shoulders, and conform to the natural curves of the spine; the *desk-height* should equal the *seat-height* plus the *difference* between the height of the sitting bones and the height of the elbow; the *desk-top* must so slope, and at such a distance from the child's eye, as to obviate any necessity of bending the head forward for the sake of securing distinct vision in reading or writing; and there must be a *minus distance* between seat and desk, lest the seat-back be rendered useless or harmful.

The child requires such a seat and desk at every stage of his school-life. Theoretically this requirement may be met by providing each class-room with a large and varied assortment of fixed seats. Practically, owing to the constant growth of the individual child's trunk and limbs, and owing to the wide range in the mean and extreme lengths of his body and its parts,—a range that fluctuates from year to year,—it is well-nigh impossible, except at the expense of an excessive outlay of time and money, to furnish a series of class-rooms with the right number of fixed seats of different sizes. At the best we can look for only approximate success in seating classes when fixed furniture is exclusively used, even when it is carefully graded as to sizes.

The ideal end of school-seating is that every child shall be provided, during each stage of his growth, with a separate desk and chair whose several parts shall be so proportioned and put together as to meet the individual needs of the child. Strictly speaking, no school-seat is worthy to be called perfect unless it affords automatic adjustability in respect to height of seat, difference, distance, depth, and length of seat, height of back-rest, and slope of desk, and in such wise that the movable parts can be worked easily, noiselessly, and safely by a primary pupil. For such a seat to be available for children throughout their period of growth, the range of motion in its adjustable parts must correspond to their range of variation in length of trunk, legs, and arms. It is possible, of course, that such a seat can be devised, but it is highly probable that ideal hygienic needs would be sacrificed in practice to pecuniary considerations, or to purely technical and pedagogical requirements. I am free to say that no single-sized seat that I have seen, or seen described, fulfils the requirements of an ideal seat. Economy of floor-space, not to speak of other considerations that readily suggest themselves, would seem to necessitate the making of certainly two and perhaps three distinct sizes of seats and desks, be they never so perfectly adjustable.

EUROPEAN ADJUSTABLE DESKS AND CHAIRS.

Lorenz (*op. cit.*, p. 30) and Janke (see "Zeitschrift für Schulgesundheitspflege," Vol. III., 1890, p. 461) describe a school desk and chair made by Pedersen, of Copenhagen, which more nearly fulfils the requirements of complete adjustability than any I know of. It is automatically adjustable as regards distance, difference, seat-depth, and height of back-rest. However, it seems to be rather complicated for the use of young children.

Dr. Schenk's "Simplex desk" well deserves its name. It is as ingenious as it is simple in its contrivances for effecting automatic adjustment in respect to distance, difference, and

desk-slope. But, though a movable foot-rest is provided, the seat is not adjustable either for height or depth, and the seat-back is immovable in all its parts. Its shortcomings as a compromise seat might be largely obviated, if it were made in three sizes instead of one.

Holscher and Neudörfer, both Germans, and Kryloff, a Russian, have each devised completely adjustable seats for home use that suggest ingenious expedients for improving school furniture. Dr. Brandt, of the University of Charkow, and Dr. Sandberg, of Stockholm, have invented school-seats that are adjustable for difference, distance, and depth, while that of Dr. M. Roth, of London, is adjustable for difference and distance, but not for depth.

The great majority of European inventors of adjustable furniture have directed their attention to contrivances for effecting a change from plus to minus distance and *vice versa*; and a somewhat long list of desks and chairs might be drawn up to show that their efforts in this direction have been fairly successful. For instance, at the competitive exhibition of school-seats, held at the City Hall, in Vienna, in January, 1894, of the forty-nine placed on exhibition no less than thirty-nine were adjustable for distance. In five cases the seat was made movable; and in thirty-four the desk or the desk-top was movable, — of which twenty were provided with hinged flaps and nine with devices for swinging the desk or the desk-plate forward and backward, while four had sliding tops, and one a roller top.

Of American adjustable school furniture as a whole it must be said that it does not adequately represent “the present state of the art.” Our inventors and manufacturers have been slow or timid in profiting by foreign example and experiment. Inventive genius on this side of the Atlantic has been chiefly devoted to the one matter of devising mechanical contrivances for raising and lowering desks and chairs, *i.e.*, for effecting adjustment for difference. None of our so-called adjustable furniture, so far as I know, is adjustable in respect

to the very important points of distance, depth of seat, desk-slope, and height of back-supports, and most of it is not adjustable in respect to any one of the four points I have mentioned. It is but fair to say, however, that American inventors and manufacturers as a class have shown more enterprise and interest in the problem of school-seating than have either American educationists or scientists. The fact that our much lauded technical and manual training schools have done next to nothing hitherto towards the improvement of school furniture suggests an interesting and fruitful line of inquiry and criticism.

EARLY EFFORTS IN SCHOOL-DESK REFORM IN NEW ENGLAND.

It is now nearly sixty-five years since school-seating began to be discussed in New England.* At the first meeting of the American Institute of Instruction, which was held in August, 1830, in this city, Dr. John C. Warren, the foremost surgeon of Boston, gave a lecture on "Physical Education." The following extracts from his lecture which stands as "Lecture I." in the annals of the institute are of interest:

I feel warranted in the assertion that of the well-educated females within my sphere of experience, about *one-half are affected with some degree of distortion of the spine.* . . . The immediate cause of the lateral curve of the spine to the right is the elevation and action of the right arm in writing. . . . Young persons, however well disposed, cannot support a restriction to one place and posture. . . . The postures they assume while seated at their studies are not indifferent. They should be frequently warned against the practice of maintaining the head and neck long in a stooping position; *and the disposition to it should be lessened by giving a proper elevation and slope to the desk; and the seat should have a support or back of a few inches at its edge.*

The last lecture before the American Institute of Instruction in 1830 was on "The Construction and Furnishing of

*It is more than fifty years since the first American adjustable desk and chair was introduced by Amos Chase, of No. Wear, N.H., to an unappreciative public.

School-Rooms," by Mr. Wm. J. Adams, of New York, who in his remarks on seats and desks speaks with disapproval of

That ancient form, in which the seat occupied by a row of pupils is attached to a desk of the same length immediately behind, which supports the back. The most modern construction, he goes on to say, appears to be that of detaching the seat occupied by each pupil from the desk behind, and from the other seats, — the desks themselves remaining continuous, as before. The seats are made without backs and behind them is a passage for walking. In this way each child is *insulated*. . . . The seat itself is either a piece of plank, nine inches by twelve, with the corners rounded off, nailed upon a firm pedestal; or it may be simply a *box* without a cover, made to stand upon one end, and fastened to the floor.

To the plan just described there is still one objection; viz., the want of some support to the back. This want may be supplied by the upward continuation of the board which forms the rear of the box, — perpendicularly, so as not to encroach upon the passage behind, and so low as to reach only the hollow of the back of the child, without touching the shoulder-blade. A convenient rule for regulating the height of seats and desks is to suppose the former of such a height that the knee shall be bent at a right angle, the foot resting firmly on the floor. If, then, the pupil sit perfectly upright, the place of the elbow will indicate the true level for the *edge* of the desk. Each desk should have a slope, but so slight that books and slates may not slide off.

In 1831 the American Institute of Instruction's prize for an essay "On the Construction of School-houses" was awarded to Dr. William A. Alcott, of Hartford, Conn., afterwards of Boston. Appended to the essay is a plan of a school-room to accommodate fifty-six pupils (*which is the regulation number in our schools to-day*), each pupil to be provided with a desk 2 feet by $1\frac{3}{4}$, and a seat "in effect a square box closed on all sides," support for the pupil's back being afforded by front of the desk behind him.

The height of the desks and seats, says Dr. Alcott, is proportioned to the height of the pupils who occupy them [*but no scale of heights is given*]. . . . The particular arrangement of each seat and desk is such as almost to compel the person occupying it to sit in an erect

position. The edge of the desk will be directly over the edge of the seat [*i.e.*, *distance equals zero*]. In writing, the arms will hang naturally by the side, while the flexure at the elbow will be such that the lower position of the arm with the hand will form a right angle with the upper portion and rest lightly upon the desks. The desks will thus be much lower than is usual, but all parts of the body, as well as every limb, will be at the same time free and unconstrained. This is a point of vast importance. The most common position at the school desk is extremely unfavorable to the healthful action of the lungs, stomach, liver, etc., as well as liable to produce distortion of the spine, and consequent disease.

Yet even to this day the majority of desks in the Boston schools are too high, so much so that in writing the forearm is forced to make a more or less acute angle with the upper arm, while the upper arm is unduly abducted from the body and the right shoulder is unduly raised. This is especially the case in the vicious but still too common writing position in which the pupil is required to sit with his side towards the desk, so that his back must be totally unsupported.

Dr. Alcott may be said to have set the tone among educational reformers in regard to school-seating, since we find his plans adopted and adapted and his recommendations approved and advocated in Horace Mann's "Report on the Subject of School-houses," supplementary to his first annual report as Secretary of the Massachusetts Board of Education, in 1838, and by George B. Emerson in "the School and Schoolmaster," published by Harper & Brothers, in 1842, at the expense of Mr. James Wadsworth, of Geneseo, N.Y. As 11,000 copies of "The School and Schoolmaster" were distributed gratuitously in the school districts of that State, and Mr. Martin Brimmer, of Boston, when mayor of Boston, "caused to be printed, at his expense, such a number of copies as would supply one copy each to all school districts, and one copy each to all boards of school committee men in Massachusetts," Dr. Alcott's views became widely diffused. At the same time Dr. Alcott was ahead of his time in recommending separate desks and chairs, *set at a zero*¹ *distance* for each pupil, for we

¹ As late as 1839 influential writers in England recommended a *plus distance of three inches between desk and form.*

read in Superintendent Philbrick's fortieth report, 1874, that when the Quincy Grammar School was erected in 1848, being a radical innovation, "it contained a separate desk and chair for each pupil, this being probably the first grammar school-house here or elsewhere, so far as I know, into which this feature was introduced." During the decade prior to 1848, the most usual way of seating was to provide grammar and high school pupils with a separate seat, but to seat two pupils at a desk. Primary children in Boston had separate chairs as early as 1842, but it was not till 1856 or later that the Common Council could be induced to provide them with desks as well.

INTRODUCTION OF SEPARATE DESKS AND CHAIRS INTO THE LATIN SCHOOL.

Rev. Edward Everett Hale has kindly furnished me with the following notes on the seats used in the Public Latin School when he was a boy :

Until 1831 the desks at the Latin School were long fixed forms, with seats attached in front of the next row. Generally there were but two rows, I think in some cases three. Always there were three rows of seats ; the front row having no desk. For recitations the boys, until 1831, went out and sat on benches without backs. The height was uniform for the form seats, and of course for each bench. The desks of the forms were fixed, not on hinges. It was in 1831 that Mr. Dillaway introduced some separate desks, in some rooms. He had bought them or had them bought at some other school. They had been used before. The seat was attached solidly—I never knew one broken—and was like a small wooden chair-seat. All the seats were of the same height, for boys six feet high or for boys four feet high. Oddly enough I do not remember ever complaining of this or thinking there was any hardship about it. These newer desks, which were not forms and were never called so.—were in fact tables with desks on top. The desk opened with a hinge so that the boy supported the cover on his head when he looked for anything. These desks had had locks ; but they had none in our day. They did have inkstands set in the top. They were painted green. They were much more popular than the forms, and where the forms and desks were used together, little boys had the forms and big boys the desks. Mr. Dillaway also introduced the ordinary *settees*, just such as

are now in general use, for recitations, in place of benches. I am quite clear that these desks (which could be moved and were not generally screwed to the floor) were introduced in September, 1831. Observe that the *forms* had backs; namely, the wall or the form behind. The desks had the same, if a desk were behind you, or the wall were behind you. If not — not.

The fact noted by Dr. Hale with regard to lack of back support for boys seated in the rear rows is of interest in considering the evolution of the Boston school chair, for it was evidently to make good this lack that the seats in the back row were the first to be provided with chair-backs, as were later all seats. The transition is shown by a cut in Mr. Mann's report, cited above, which shows the arrangement of seats and desks in the Wells School, Boston, in 1838: "The seats in the back row are chairs. The others are without support to the back. The scholars are tempted to lean backward against the next tier of seats, which not only throws them into an unnatural and unhealthful posture, but is also a source of annoyance to others."

ACTION OF SCHOOL COMMITTEE REGARDING SCHOOL-SEATING.

The records of the School Committee are not rich in respect to school-seating. The following extracts from reports and minutes may, however, serve to indicate the main course of events.

Feb. 12, 1833, Mr. Samuel A. Eliot, as chairman of a special sub-committee, recommended certain needful changes in the interest of better ventilation, heating, and arrangement of seats. Mr. Eliot's advocacy of his recommendations is couched in very vigorous terms.

It may sound strangely, he says, to ears accustomed to hear the praise which is often bestowed upon our system of public schools, and to those who see what appears the great sum annually spent upon them, to hear it asserted that the children have not room enough and that more care is taken of the health of the convicts in our penitentiary than is bestowed upon the health of the children we send to our schools,

or upon the rooms in which they are assembled. But it is nevertheless strictly true.

It is the duty of parents and those who act for them to take care that the school-room shall be a place where the children may acquire the use of their intellectual faculties without having their physical organization disturbed or their vital powers debilitated by a constrained position or an impure atmosphere.

Aug. 8, 1837, when Mr. Eliot was mayor, in the report of a special committee appointed "to consider the expediency of applying to the City Council for a new school-house for the accommodation of the northern wards of the city," the Eliot School-house was pronounced "inconvenient in almost every respect. . . . The forms, besides being too narrow, are crowded too closely together; and the seats, which are merely oval stools without backs, are quite too contracted." Finally the Eliot School-house was rebuilt, and furnished in 1838-39 with separate seats for each pupil, the seats being provided with a back-support "resembling the back of a chair."

In the Mayor's address to the School Committee, Jan. 8, 1839, Mr. Eliot notes the improvements with respect to ventilation and seating embodied in several school-houses recently built or remodelled, and recommends "that a committee be appointed to devise and recommend a plan of a school-house to this board, to be by them recommended to the other branches of the city government, embracing such a system of ventilation and such arrangement of the seats as shall appear best calculated to promote the health and reasonable comfort of the children." Messrs. Eliot, Ezra Palmer, Jr., and S. G. Howe were appointed to serve as such a committee. Mention of the committee's report is made in the minutes of the Board, but the report is missing from the files of 1839. In response to a petition of S. G. Shipley and others deploring "the increasing prevalence of diseases of the spine among young females educated in the public schools" owing to backless seats, Mr. Eliot was empowered to "provide such seats as may be deemed suitable."

Either the seats were not furnished, or Mr. George S. Hilliard was hard to please, for as chairman of the Annual Committee on the Grammar Department we find him saying, in 1841 :

The schools are too crowded and the seats are not properly constructed. There is not a single school which has come under the observation of your committee in which the seats are adapted, as they ought to be, to the young and growing frame. Especially do the girls suffer from this cause, from their greater delicacy of organization and less hardy habits of exercise. Such seats cannot be viewed without pain by any one acquainted with the principles of physiology.

The policy of furnishing the pupils in the Grammar Schools with separate desks and chairs seem to have been steadily followed after its inauguration in the Quincy School in 1848. But difficulties were encountered in reforming the method of seating primary pupils, as appears from Superintendent Philbrick's mention of the matter in his fortieth report. "In 1856 the primary pupils were seated in movable arm-chairs without any desks before them, and without any suitable place to keep their books and slates. Without desks the use of slates was out of the question. As the use of slates was deemed essential, an attempt was made to supply the primary schools with single desks and chairs. On the part of the City Council there was determined and persevering opposition to this requirement, and it was only after four or five years of persistent efforts that this desirable object was fully accomplished."

In 1892, at its meeting on January 26th, the School Committee voted to constitute a Special Committee on the Seating of Pupils, and Messrs. Green, McDonald, and Mecuen, all physicians, were appointed to serve in that capacity. This committee was instrumental in securing the introduction of adjustable furniture into the new Charles C. Perkins Primary School, in the Prince District, in 1892, and in securing the publication of Dr. C. L. Scudder's valuable "*Investigation into one of the Etiological Factors in the Production of Lateral*

Curvature of the Spine — Reasons why the Seating of School-Children should receive very Careful Supervision," which constitutes School Document No. 9, 1892.

The following extracts from the minutes of the School Committee relate to orders offered by the Committee on the Seating of Pupils :

Oct, 25, 1892, Mr. Green, for the Special Committee on the Seating of Pupils, offered the following :

Whereas, a carefully prepared report to the School Committee, by a competent expert, on the seating of pupils in the public schools (School Document No. 9, 1892), has been printed and distributed to all teachers in charge of rooms, it is hereby

Ordered, That the Supervisors and the Director of Physical Training be and hereby are directed to ascertain, in their visits to their respective schools, whether or not the said report has been received and studied by the teachers, and whether intelligent effort is made on the part of the teachers to seat their pupils in accordance with the teachings of the report, as far as the present provision of school furniture will allow.

Ordered, That the Supervisors and the Director of Physical Training be directed to render to teachers any needed advice and assistance in the seating of pupils, and to include in their next reports to this Board the general results of their observations, and any suggestions pertaining to the proper seating of pupils which they may think desirable to bring to the notice of the School Committee.

Accepted, and the orders passed.

Feb. 14, 1893, Mr. Green offered the following :

Ordered, That the Superintendent of Public Buildings be directed to gradually rearrange the desks and seats in the older school buildings, providing new furniture where needed, so that there shall be three sizes of desks and seats in each room. Referred to the Committee on School Houses.

March 14, 1893, Mr. Pettigrove, for the Committee on School Houses, to whom was referred, February 14, an order that the Superintendent of Public Buildings be directed to gradually rearrange the desks and seats in the older school buildings, so that there shall be three sizes of desks and seats in each room, reported that in the opinion of this committee the matter of providing suitable school furniture is one of great importance, and needs careful consideration, and may require certain experiments before any formal recommendation as that contained in the order can be wisely endorsed and carried out. It is the purpose of this committee to give the subject the attention it deserves, and by experi-

ment and investigation to secure some wise and beneficial improvements in this particular. The committee therefore recommend that no further action of the Board in the matter is necessary at present.

Accepted.

RECENT REPORTS ON SCHOOL-SEATING IN BOSTON.

Dr. Scudder's investigations were confined to girls' schools chiefly of the grammar grade. Out of 37 rooms examined, only 13 were found to be provided with as many as two sizes of desks and chairs. "In every instance," says Dr. Scudder. "where these two sizes are found there are only a few of the second, and the difference in sizes is often scarcely noticeable. With very few exceptions it is true that girls of the grammar schools in any one room sit in the same-sized seats, and at desks of uniform height."

His report contains tabulated statements showing the range of age and the range of height exhibited by the pupils of 6 girls' schools; the data concerning 34 rooms are complete. We may divide these rooms into two classes, viz.: (1) those with desks of *one size* only, and (2) those with *two sizes* of desks. Of the former there were 21, of the latter 13 rooms. In 21 rooms, in which the desks were of one size only, the average difference between the height of the tallest and shortest girls amounted to 31.3 centimeters, or 12.26 inches; and the average difference between the ages of the oldest and youngest girls was 5 years and 4 months. In 13 rooms, which contained desks of two sizes, the average difference in height between the tallest and shortest girls was 41.14 centimeters, or 16.26 inches; and the average difference in age between the oldest and youngest pupils was 6 years and 2 months.

The report contains twelve plates which serve "to illustrate a few of the faulty positions taken because of the disproportion between child, seat, and desk."

Dr. Scudder states his conclusions as follows :

1. The present method of seating the school-houses of Boston is at fault, in that children are compelled to sit in desks unsuited to them.

2. This method of seating tends to the production of permanent deformity of the spine.

3. The poor seating in our schools has not been hitherto sufficiently emphasized by orthopædic surgeons as a cause of spinal deformities.

4. A larger number of different-sized desks and seats, or adjustable desks and seats, should be provided for each school-room.

5. The teachers of the public schools should be impressed with the fact of the importance of maintaining erect positions, both in sitting and standing.

6. Having greater variety in sizes of seats and desks, and recognizing the danger of malpositions in sitting, great care should be used to seat each child before a desk and in a chair as nearly as possible her proper size.

7. The desk should be low enough to just allow the bent elbow to touch it when the hand is raised to write without raising the shoulder or tilting the trunk.

8. The chair should permit easy contact of the whole sole of the shoe with the floor when the child sits well back in the seat.

9. The foot-rests should be used more than at present, not only to support the foot and leg, but to give a feeling of support to the whole trunk, and to prevent the slipping forward of the buttocks upon the chair, causing one of the commonest of bad postures.

10. The present system of gymnastics in use in the public schools will help to overcome slight tendencies to deformity which might go unchecked and lead to disastrous results.

Acting under the committee's order of Oct. 25, 1892, I investigated the conditions of seating found in 100 classrooms taken at random, in primary, grammar, and high schools; in old, middle-aged, and new buildings; in boys' schools, in girls' schools, and in mixed schools. In my last report to the School Committee an account is given of the results of that investigation, together with an account of the measures taken in coöperation with Mr. Gibson, the master of the Agassiz School, to secure a suitable assortment and allotment of fixed desks and chairs in the new Agassiz building. Since the completion and occupancy of that building the question of the introduction of adjustable furniture

into new school-houses has become prominent, and thanks to the activity of rival manufacturers is still acute. It seems proper to introduce some extracts from my report, published in September, 1894, at this point.

In studying the conditions found in 100 sample class-rooms, no effort was made either to avoid or seek the rooms investigated by Dr. Scudder. In general, I found a relatively larger number of rooms provided with more than one size of desks and chairs than did Dr. Scudder. But it should be noted that the mere provision of three sizes of desks is no guarantee against misfitting, as I found misfits in rooms containing three sizes of desks. In one such room, in a grammar school, I found that more than one-half of all the pupils were misfitted. It was a room which had been assigned to third-class boys for very many years, though it was fitted with desks and chairs intended for fourth-class boys.

The following figures relate to two kinds of misfit only, which for convenience are characterized as "minus-misfits"; *i.e.*, when the pupil is unable to assume an erect sitting position, with both feet flat on the floor, owing to contact between his knees and the under surface of his desk, and "plus-misfits," *i.e.*, when the pupil, in the erect sitting position, is unable to put both feet flat on the floor — the seat being too high.

Of the 100 rooms alluded to above, there were only 18 in which no case of misfitting was found, while 733 cases of misfitting were found in the remaining 82 rooms, which contained upwards of 3,600 pupils in actual attendance. In other words, misfits were found in 82 per cent. of the classes examined, and 20.27 per cent. of the pupils in those rooms were misfitted; 8.76 per cent. of the pupils presented "minus-misfits," and 11.51 per cent. of them presented "plus-misfits." Of the whole number of misfits noted, 317 or 43.24 per cent. were minus-misfits, and 416 or 56.76 per cent. were plus-misfits, which goes to show that the number of children forced to sit in chairs that are too high is considerably greater than the number of those obliged to use chairs and desks that are too low. In one of the high schools for boys, about one-third of the members of the first class were found occupying desks which cramped their knees, though the desks in question were of the largest size.

In 16 night-school classes, with 627 pupils in attendance, misfits were found in all but 2 rooms; 144 minus-misfits, but

no plus-mislits, being found in 14 rooms containing 554 pupils. In other words, 23 per cent. of all the pupils examined were placed at desks which were too small for them. The ill effects of misfitted desks and chairs upon night-school pupils are trifling in comparison with such effects upon the rapidly growing children who make up the population of the day schools.

While it would be unjustifiable to assume from the data given above in regard to 100 rooms that 20 per cent. of the pupils in 82 per cent. of all the school-rooms belonging to the city are misfitted in respect to their desks and chairs, it does seem to be tolerably clear that there is an undue amount of such misfitting, and that Dr. Scudder was right in saying, "A larger number of different-sized desks and seats, or adjustable desks and seats, should be provided."

The general conclusions which I have reached in this matter may be stated as follows :

1. Little if any improvement has been made in the methods of seating pupils in the Boston schools since Superintendent Philbrick's efforts, some twenty-five years ago, to secure desks and chairs of improved construction.

2. The method of seating which now prevails is so arbitrary, antiquated, and inadequate that it needs amendment.

3. The desks and chairs which are customarily furnished, although they are durable and well made when considered simply as articles of manufacture, do not conform as regards their design and construction to the recognized principles of modern school-hygiene.

4. The present condition of things appears to be due to the fact that the designing, selection, and distribution of the school-furniture now in use have been left too largely in the hands of interested and inexperienced persons, who were practically outside the jurisdiction of the School Committee. Our methods of seating, therefore, have not kept pace with the progress made in those parts of the world in which expert knowledge has been turned to practical account in the attempt to solve the problems involved.

5. Certain manufacturers of school-furniture have recently shown an active disposition to improve the quality of their wares, especially in the direction of devising adjustable desks and chairs. This is a hopeful sign of the times. Still the present state of their art is so rude and undeveloped, and is so likely to undergo further change and improvement within the next few years, that the wisdom

and expediency of adopting any of the newer and so-called improved American systems of seating, except in a tentative and experimental way, may be doubted seriously.

6. The problem of providing our school-population with desks and seats which shall adequately meet the requirements of growing children is one of vital importance. It is also an intricate and difficult problem, since it involves questions of a medical nature, in addition to questions which pertain to mechanical engineering and to the practical management of schools. The best interests of pupils, teachers, school-managers, and of manufacturers as well, all demand the adoption of more comprehensive and active measures than have been taken as yet in this country. To enlighten the public mind with regard to the essential principles involved in the construction and use of school-furniture, it is eminently desirable, to say the least, that the whole problem of seating should be authoritatively pronounced upon by a commission of disinterested men, who are competent and willing to avail themselves of the best that has been attempted or accomplished by similar commissions in Europe during the past ten years. The conclusions and recommendations of such a commission, if it were appointed and supported by a representative organization such as the Massachusetts State Board of Health, the Massachusetts Medical Society, or the State Board of Education, or by the conjoint action of all three, could hardly fail to prove widely influential in promoting the public welfare. By hastening the settlement of vexed questions, and by obviating the necessity of costly and partial experiments, with all manner of "improved chairs and desks" on the part of the school boards of the Commonwealth, such a commission would save the cost of its investigations and publications many times over to the taxpayers of the State.

METHOD OF SEATING IN THE NEW AGASSIZ SCHOOL.

The Committee on School Houses not being favorably impressed with any of the adjustable desks and chairs then in the market, wisely determined on providing the new Agassiz Grammar School-house with fixed furniture of the Whitcomb pattern, so called, such as is found in the majority of all the newer school buildings. The problem was to secure a sufficiently varied assortment of desks and chairs in each class-

room. It is but fair to say that the seating of the pupils in the old building was less objectionable than in many other districts, as it had an unusual number of rooms containing two or even three sizes of desks, and exceptional care had been taken by Mr. Gibson to make the best distribution of the seats furnished. Still 6.2 per cent. of the pupils in the grammar school were found to be misfitted (using the term as in the sense defined above) in January, 1893. In February, 1894, I found the proportion of misfits in the new building reduced to 1.2 per cent.

Mr. Gibson kindly undertook to determine the height of the pupils in his district, 668 in all, in January, 1893, and twice repeated his measurement of all grammar-school pupils (boys), between that date and February, 1894; and placed all his measurements at my disposal. The age of each pupil was noted in addition to his height. These series of measurements were used in determining how many of each size of Whitcomb desks and chairs should be placed in the new school-rooms. Eight sizes are included in the Whitcomb scale, which purports to "embrace all the heights and sizes for pupils of the age of 5 years to 18 and upwards." The Whitcomb scale is set forth in the following tabular view:

Scale-number.	VII.	VI.	V.	IV.	III.	II.	I.	I. Extra.
Corresponding age, year.....	5-6	6-7	7-8	8-10	10-12	12-14	14-16	16-18
Height of chair, inches.....	10.5	11.25	12.25	13.5	14.5	15.50	16.75	16.75
Height of desk, inches.....	20.5	21.50	23.0	24.5	25.5	27.0	28.5	29.0
"Difference," inches.....	10.	10.25	10.75	11.0	11.0	11.50	11.75	12.25

It will be noticed that the gradation of sizes is based on the age of the pupil for whom the furniture is intended. Experience and reason show that height is a more accurate and serviceable criterion than age in this field, and that height of knee is a better criterion than total height. But as we do not know the knee-heights of Boston children at each year of school age, I availed myself of the average

TABLE IV., SHOWING PER CENT. OF DESKS AND CHAIRS OF EACH SIZE (No. I. EXTRA-No. VI.) CALLED FOR (1) BY AGE-SCALE, (2) HEIGHT-SCALE, AND (3) THE PER CENT. OF EACH SIZE ACTUALLY FURNISHED: A. IN OLD AGASSIZ GRAMMAR SCHOOL; B. IN NEW AGASSIZ SCHOOL-HOUSE.

WHITCOMB-SCALE NUMBER.	No. I. Extra.		No. I.		No. II.		No. III.		No. IV.		No. V.		No. VI.		Misfits.			No. of sizes furnished.		
	Per cent. of each size.		A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.		B.	
Class I....	Called for by age-scale	14.6	2.6	73.1	7.6	12.1	21.0	1.8												
	Called for by height-scale ...	41.5	28.9	39.0	39.4	19.5	31.5	3.7												
	Actually furnished.....	0.0	13.1	50.0	47.3	50.0	39.4	13.7									9.7	0.0	2	3
Class II. ...	Called for by age-scale	7.4	7.0	51.8	51.9	38.8	40.3	1.8		0.0										
	Called for by height-scale ...	16.7	17.3	33.3	30.7	46.3	44.2	3.7		7.0										
	Actually furnished.....	0.0	5.7	41.3	38.4	44.8	50.0	13.7	5.7									7.4	0.0	3	3
Class III. ...	Called for by age-scale	0.0	8.9	27.2	26.7	63.6	57.1	9.0		9.0										
	Called for by height-scale ...	3.5	7.1	29.1	32.1	54.6	48.2	10.9		12.5		1.8								
	Actually furnished.....	0.0	0.0	40.6	25.0	30.5	50.0	28.8	25.0	0.0							1.8	1.7	3	3
Class IV. ...	Called for by age-scale	0.0	5.3	19.7	19.6	44.3	51.7	36.0		23.2		0.00								
	Called for by height-scale ...	4.9	12.5	16.4	19.6	44.3	50.0	34.4		16.0		1.7								
	Actually furnished.....	0.0	0.0	1.6	12.5	51.3	39.2	40.9	37.5	10.7								6.5	7	2	4
Class IV. ² ..	Called for by age-scale	1.6	7.1	25.0	8.9	35.0	50.0	26.7		32.1		1.6		1.7						
	Called for by height-scale ...	3.3	3.5	16.7	19.6	40.0	51.7	35.0		25.0		5.0		0.0						
	Actually furnished.....	0.0	0.0	1.5	14.2	17.6	46.4	52.3	28.5	28.0	10.7							6.6	0.0	4	4
Class IV. ³ ..	Called for by age-scale	0.0	0.0	.....	19.6	.....	48.2	.....		32.1		0.0						
	Called for by height-scale ...	1.7	.....	12.5	.....	53.3	.....	32.1		0.0								
	Actually furnished.....	0.0	0.0	44.6	42.8	12.5							5.3	3	
Class V.	Called for by age-scale	0.0	.....	14.7	1.7	37.7	23.2	44.3		60.7		3.3		14.2		0.0		0.0	
	Called for by height-scale ...	1.6	.....	8.2	3.5	49.2	33.9	32.8		39.2		6.6		19.3		1.6		3.5	
	Actually furnished.....	0.0	0.0	0.0	20.6	26.7	38.0	46.4	41.2	19.6	0.0	7.1					3.2	1.7	3	4
Class VI. ...	Called for by age-scale .....	.....	.....	5.4	3.5	10.7	8.9	71.4		60.7		12.5		26.7		0.0		
	Called for by height-scale ...	.....	.....	1.8	1.7	28.6	21.4	55.3		39.2		14.3		33.9		3.5		
	Actually furnished.....	25.4	1.7	27.1	14.2	16.9	26.7	30.5	50.0									14.2	0.0	4	5
Class VI. ² ..	Called for by age-scale .....	.....	.....	1.3	0.0	16.8	5.4	55.4		69.0		32.4		25.4		0.0		0.0
	Called for by height-scale	0.0	0.0	21.6	27.2	37.8		40.0		57.8		39.9		1.4		1.8	1.4	
	Actually furnished.....	1.2	0.0	13.7	18.1	35.0	32.7	50	41.8	0.0	7.2	0.0					2.7	0.0	4	5

N.B.—The per cents. in the columns marked A refer to analysis of investigation made in January, 1893; those in columns marked B, to the investigation made in February, 1894. The seats "actually furnished" in the first case purported to correspond to Whitcomb's age-scale. The distribution of the seats occupied in February, 1894, was based on measurement of the height of the occupants of the seats, and observation of their sitting-height besides.

heights of Boston school-children as determined by Dr. H. P. Bowditch, in 1875, in changing the Whitcomb age-scale to a height-scale, which is given below :

Scale-number.	VII.	VI.	V.	IV.	III.	II.	I.	I. Extra.
Range of height in inches.....	41-43	44-45	46-47	48-51	52-54	55-59	60-64	65+
Corresponding age, in years.....	5-6	6-7	7-8	8-10	10-12	12-14	14-16	16-18

It was strikingly brought out by the three series of measurements made by Mr. Gibson on his pupils, that the average height in the same class varies considerably from year to year, and even from one six months to another. This variation which is inevitable, greatly enhances the difficulty of providing a sufficient number of accurately assorted seats and desks, *unless they are adjustable.*

The appended tables serve to show how the demands for assorted sizes may vary at short intervals in the same classroom, owing to the changing stature of the pupils.

Table IV. is constructed to show the per cent. of seats of each size called for, in each class, by the age and height-scales already cited, at periods a year apart. It also affords a comparison between the distribution of seats actually furnished the pupils of the Agassiz Grammar School, and between the percentage of misfits in the old building and the new building. The figures in the column marked "A" relate to conditions found in January, 1893, while those in the column marked "B" relate to conditions found in February, 1894, after the new building had come into use. The seats actually furnished in fitting up the new building were assorted in accordance with the results of the measurements made in January and September, 1893. Still the scale based on total height was found to be approximative only, and when the assignment of seats came to be made it was found necessary to adopt the *sitting-height* as the criterion in many instances. This suggests that *absolute accuracy* in the seating of growing children cannot be

secured, unless their individual peculiarities in regard to stature, length of trunk, length of leg, etc., are taken into account periodically. Even where adjustable furniture is used, it is doubtful if average heights can be implicitly relied upon as criteria.

TABLE V.

SHOWING DIFFERENCE BETWEEN PER CENT. OF DESKS CALLED FOR BY WHITCOMB AGE-SCALE, THE SAME EXPRESSED IN TERMS OF HEIGHT, AND THE PER CENT. OF EACH SIZE OF DESKS FURNISHED TO AGASSIZ GRAMMAR SCHOOL, JANUARY, 1893, AND FEBRUARY, 1894.

Scale Number of Desk-size.	Scale.	PER CENT. OF DESKS.			PER CENT. OF DESKS.		
		At first measurement, January, 1893.			At third measurement, February, 1894.		
		Called for by scale.	Furnished.	Difference.	Called for by scale.	Furnished.	Difference.
No. I. Extra . . .	Scale of age	2.3	0.0	-0.3	3.5	0.0	-3.5
	Scale of height	7.3	0.0	-7.3	7.0	17.7	-7.0
No. I.	Scale of age	24.4	17.7	-6.7	20.9	17.7	-3.2
	Scale of height	16.4	17.7	+1.3	16.8	17.7	+0.9
No. II.	Scale of age	31.6	31.1	-0.5	34.3	31.1	-3.2
	Scale of height	38.0	31.1	-8.9	40.5	31.1	-9.4
No. III.	Scale of age	34.1	29.8	-4.3	33.0	29.8	-3.2
	Scale of height	27.9	29.8	+1.9	34.5	29.8	-4.7
No. IV.	Scale of age	7.3	21.0	+13.7	8.1	21.0	+12.9
	Scale of height	9.5	21.0	+11.5	9.9	21.0	+11.1
No. V.	Scale of age	0.0	0.0	0.0	0.0	0.0	0.0
	Scale of height	0.4	0.0	-0.4	1.0	0.0	-1.0
No. VI.	Scale of age	0.0	0.0	0.0	0.0	0.0	0.0
	Scale of height	0.2	0.0	-0.2	0.0	0.0	0.0

N.B. — In January, 1893, there were 29 misfits among 462 boys, or 6.2 per cent.
In February, 1894, there were 6 misfits among 481 boys, or 1.2 per cent.

The above table shows that the requirements as regards the number of seats of a given size will vary in a given school according as the pupils vary in height from time to time; and favors the contention that when fixed desks and chairs (graded according to an average-age or an average-height standard) are used, the necessity for re-sorting and rearranging them is likely to recur frequently.

While this table suggests the superiority on general principles of adjustable over fixed desks and chairs, very much remains to be done before American adjustable furniture will be equal to the task of abolishing all or even most of the patent evils of the traditional and haphazard methods of school-seating now in vogue. I doubt the expediency of adopting adjustable furniture in a wholesale way so long as the inventors and makers of such furniture change their adjustment-devices from year to year, and fail to turn out desks and chairs that are hygienic in all respects, instead of in one or two only.

It is extremely desirable, in my opinion, that the present needless misfitting in the Boston schools should be reduced without further delay. The most feasible way to reduce it at the present time, as is shown by our experience in fitting up the class-rooms of the new Agassiz Grammar School, is to redistribute the desks and chairs now in use, so that each room shall have at least three sizes of desks and chairs. In several of the Agassiz School-rooms odd-sized desks were placed in the front row, in order to meet the needs of deaf and short-sighted children. Had one or two rows of adjustable desks been placed in each of the Agassiz School-rooms, I believe that misfitting, in the sense in which that term is used in these pages, would have been reduced to nothing, or at least to a fraction of one per cent.

OBSTACLES TO REFORM.

The teachers can do something towards mitigating the ill effects of the present unsystematic fashion of assorting and

setting up school-seats, by exercising more care than is common in assigning seats to the children under their charge; and by ceasing to assign the seats of their pupils according to their proficiency in their lessons but without regard to the length of their legs and arms. There is too much of this unhygienic course of procedure at present. But in many of our schools the teachers, with the best will in the world, are prevented from seating their pupils according to the plain teachings of hygiene and of common sense, by the haphazard and ill regulated way of fitting up the school-room.

The most striking example of our present lack of method was brought to my notice by the master of the Dudley School. At his request I investigated the seating in a third primary class in the Vernon-street School, Roxbury. I found that 39 old seats and desks, of the Ross pattern mostly, had been placed in the room *during the long vacation of 1894*. Of these, 18 were "No. Fours" and 21 were "No. Fives." If the seats had been selected with malice aforethought, instead of thoughtlessly as was probably the case, the result could have hardly been worse than it was. According to the Whitcomb scale, changed to a height-scale (see p. 205), there should have been 29 "No. Sevens," 8 "No. Sixes," 1 "No. Five," and 1 "No. Four;" the result was, that of the 33 children present (ranging in age from 4 to 8 years, and in height between 37 and 49 inches) 29, or 87.9 per cent. of the whole, were misfitted, being placed in seats too high for them. Of these 13, or 39 per cent., could barely reach the floor with their toes, and 16, or 48 per cent., had their feet in the air. This is by no means the only case that has been brought to my notice in which the principal has been obliged to put up with antique furniture so ill-assorted as to insure misfitting.

THE SEATING OF THE CUDWORTH PRIMARY SCHOOL.

This school in the Lyman District has a new building, occupied for the first time in December last. The Division Committee having secured the adoption of Perry's adjustable

TABLE VI., SHOWING DISTRIBUTION BY HEIGHT AND CLASS OF 465 PUPILS IN THE CUDWORTH PRIMARY SCHOOL, EAST BOSTON. THE NUMBERS IN COLUMNS A, B, AND C RESPECTIVELY INDICATE (1) THE NUMBER OF PUPILS AT EACH INCH OF HEIGHT, (2) THE NUMBER OF MISFITS AT EACH HEIGHT, AND (3) NUMBER OF SEATS REQUIRED ACCORDING TO THE BOBRICK SCALE.

Height in inches.	1.			2.			3.			4.			5.			6.			7.			8.			9.			10.			11. Bobrick Scale Number.	12. Per cent. of each Size needed.	13. No. Seats required in New House.	14. Per cent. of Misfits at Each Height.	Height in inches.												
	Class I.			Class I. ²			Class II.			Class II. ²			Class II. ³			Class III.			Class III. ²			Class III. ³			Class III. ⁴			Totals.																			
	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.						A.	B.	C.									
58									1	1	1	X.															1	1		X.	1	0.21	1	100.0	58												
57																											0	0	0	IX.				—	57												
56								2	2	2	IX.																2	2	2		2	0.43	2	100.0	56												
55																											0	0	0	VIII.				—	55												
54	2	2	2	VIII.	1																					2	1	2	VIII.				60.0	54													
53	6	1			4																					11	2		VII.				18.1	53													
52	2	1	8	VII.	2			6	VII.	1	1	1	VII.	2	2	2	VII.										7	4	18		18	4.73	21	57.1	52												
51	6	3			5			5	3				2	2			5	2									24	10	24		VI.			41.6	51												
50	8	1	14	VI.	8	3	13	VI.	8	1	13	VI.	3	3	5	VI.	3	1	8	VI.				1							55	12.68	59	29.0	50												
49	6	2			3			3	1				6	5			3										23	8	23		V.			34.3	49												
48	5	0	11	V.	3	2	6	V.	4			7	V.	9	5	15	V.	11	3	14	V.	2			2						59	12.90	60	22.2	48												
47	6	1			9	6			7	1			13	1			10				1						54	11	54		IV.			20.3	47												
46	6	2	12	IV.	4	4	13	IV.	6	2	13	IV.	8	1	21	IV.	11	4	21	IV.	4	3	5	IV.	3		7	IV.	10	2	12	IV.	6	5	8	IV.	58	21	58	112	24.94	116	36.8	46			
45					5	2			9				2				9	4			8	3						4	1			9	6		54	16	54		III.			29.6	45				
44					2	1	7	III.	9	1	8	III.	7	4	9	III.	3	2	12	III.	6	6	14	III.	3		11	III.	8	4	12	III.	7	5	16	III.	45	23	45		99	23.01	107	51.7	44		
43					1	1			2	1			4				1				6	4											28	16	28		II.			57.1	43						
42								1	II.	3	2	3	II.	1			5	II.	2	2	3	II.	9	6	15	II.	3	2	7	II.	7	4	13	II.	10	10	14	II.	35	26	35		63	15.05	70	76.4	42
41																	6	5			10	9											24	21	24		I.			87.5	41						
40																	1	1	7	I.	6	6	16	I.	1	1	3	I.	3	3	9	I.	11	11	11		35	9.03	42	100.0	40						
39																	3	3	3	O.	2	2											9	9	9					100.0	39						
38																																	2	2	2		O.			100.0	38						
37																																		4	4	4					100.0	37					
?																																		1							100.0	?					
Total pupils	47		47	47			47	59			59	59			59	58			58	46			46	47			47	49			49	53		465	465		465			504							
Total misfits	13				19			19			22			22			18			32			24			23								208			208										
Per cent. misfits	27.6				40.4			25.4			37.2			37.2			31.0			69.5			31.0			46.9							44.7			44.7											

desk and chair, which is made in three sizes, I was requested by the principal, Mr. Kelley, to furnish plans for the seating of the nine rooms to be occupied. Being furnished by Mr. Kelley with schedules and diagrams showing the height, age, and seating of 465 children who made up the nine classes in question, I noted the misfits among the children when seated in the fixed furniture in the old buildings; and having determined the required number of seats for each class observed, according to the Bobrick height-scale (which I adopted for convenience and in order to test its value), I was enabled to calculate the number of seats and chairs of each size required to seat nine new rooms with 56 seats in each room, and to furnish diagrams showing the calculated height of desk and chair for each individual pupil, in each and every room. These diagrams were used by the contractor in setting up the seats. After the seats were occupied they served effectively as a guide to rectifying chance errors. By these means the misfitting, which amounted to 44.7 per cent. in the old rooms, was reduced to zero in the new.

Table VI. was constructed to serve as the basis of the schedules and diagrams just alluded to. The A, B, and C columns respectively (cols. 1-9) show: (1) the number of pupils at each inch of height, (2) the number of misfits at each height, and (3) the number of desks and chairs called for in *each class* to correspond with the calculated heights of the Bobrick scale, the totals being given in column 10. The percentage of seats of each size for the 465 observed pupils in the old rooms is found in column 12; and the number of seats of each "scale number" required for 504 pupils in the new rooms is shown by the figures in column 13. To determine the proper proportion of differently sized seats required in each room, it is first necessary to compute the ratio, in terms of percentage, between the several numbers found in the C column and the total number of seats found in the room or required to be placed there.

Given a room with adjustable furniture of accurately

assorted sizes, still the children must be remeasured at intervals or they are liable to out-grow the adjustments which have been prescribed. It is generally agreed, I believe, that adjustable furniture should be readjusted at least twice a year. The readjustment must be based on remeasurement and cannot safely or advantageously be relegated to the janitor or the average class teacher, unless an extremely clear and simple set of directions be provided and enforced by the School Committee. I venture to express the hope that the Committee on Rules and Regulations will be impelled or induced to frame a set of rules which shall serve as the basis for a responsible and intelligent control of the seating of Boston school children, whether they occupy fixed or adjustable seats. Such blunders as that perpetrated on the first year primarians of the Vernon Street School might thereby be rendered impossible.

THREE KINDS OF ADJUSTABLE DESKS IN CHOATE BURNHAM SCHOOL.

The present phase of the school-seating question is exemplified by the tripartite division of the new Choate Burnham Primary School, where three kinds of adjustable desks and chairs have been put on trial. In the new Eustis-street Primary School, the trial is to be continued between but two of the three styles found in the South Boston school, I believe. As each of the three companies which is represented in the seating of the Choate Burnham School has its own system of grading its furniture in respect to size of castings, range of adjustability, etc.; its own rules for prescribing the height of chair and desk; and its own patent mechanical device for effecting adjustment, the conditions are favorable for making a comparative study, in the Lincoln District, of the leading styles of American adjustable school furniture. The seats and chairs, in this case, were assorted, set up, and adjusted to their occupants without any suggestion or intervention on my part. Since then I have meas-

ured all the children, and have noted the heights of their desks and chairs, and the amount and character of such misfitting as was found. A certain though not very considerable number of misfitted children were found in each of the three kinds of seats. In most cases it appeared to be due to carelessness; but in some cases I should attribute it to faulty construction of the desks, whose bottoms being placed lower than is necessary for primary school purposes pressed more or less heavily against the knees of their occupants. Unless the height or thickness of the desk box is carefully worked out, the knees may be cramped even when the difference between seat and desk-surface is theoretically correct. I have brought this matter to the attention of the manufacturers concerned, and, the remedy being obvious and simple, it is likely that the desks for primary pupils will henceforth be better proportioned.

In the Agassiz Primary School the shortest child found was 41 inches in height. Both in East and South Boston a considerable number of children ranging between 37 and 40 inches in height were found. The pupils of the Choate Burnham School were not measured prior to the occupancy of the new building. But it is a significant fact that all the children under 41 inches in height examined in the Lyman District, before the Cudworth building was occupied, were found in chairs so much too high for them that they could not place their feet flat on the floor. This fact led Mr. Perry to construct a chair and desk with lower supports than it had been customary to make in the case of fixed furniture. In fact it led to the reintroduction of a No. VIII. size which had been dropped from the Whitcomb scale. Both the Bobrick and Chandler companies have found it necessary to take somewhat similar steps. While it is possible that the average height of our youngest primarians is less than formerly, it is perfectly clear to me that our primary pupils have legs that are relatively as well as absolutely shorter than those of their older brothers and sisters. This fact should be taken

into account in attempting to determine the proper dimensions of desks and chairs for the use of our younger children.

Since the designers and makers of adjustable furniture propose to furnish "hygienic desks and chairs," they will do well to develop better methods than those yet adopted for rendering the new furniture an improvement on the old, in respect to such matters as seat-area, slope of desk, adjustability for distance, slope, and height of chair-back. All of the adjustable furniture which is on trial in our schools presents so many features that are novel to the teachers, children, and janitors, that a considerable period of time must elapse before thoroughly decisive and correct conclusions can be reached touching the distinctive merits as regards ease and accuracy of practical working of the several sorts.

CONCERNING SOME TESTS MADE IN THE CHOATE BURNHAM SCHOOL.

With the approval of Mr. Eaton, chairman of the Committee on School Houses and chairman of the Sixth Division Committee, certain tests were made under my direction to determine the ease and accuracy with which (1) an expert and (2) a janitor can adjust a given number of the three different kinds of desks and chairs used in the school above mentioned. Several members of School Committee witnessed the first test. The second test was conducted by Mr. White, principal of the Lincoln District, and myself, at a later date. The results of the tests are set forth below in Tables VII. and VIII.

TABLE VII., SHOWING RELATIVE ACCURACY OF ADJUSTMENT OF ADJUSTABLE FURNITURE, STYLED A, B, AND C, IN USE IN CHOATE BURNHAM PRIMARY SCHOOL, SOUTH BOSTON.

	1. Number of Pupil using Seat.	2. Total Height in Inches.	3. Observed Height of Desk.	4. Calculated Height of Desk.	5. Difference between 3 and 4.	6. Observed Height of Chair.	7. Calculated Height of Chair.	8. Difference between 6 and 7.	9. Distance.	10. Remarks.
Style A	No. 1	55.50	24.50	23.31	+1.29	12.87	13.06	-2.19	Minus.	
	" 2	48.00	21.75	21.11	+0.64	12.37	13.64	-1.27	Zero.	Desk touched knees.
	" 3	46.00	20.37	20.23	+0.14	11.12	13.07	-1.95	Plus.	" " "
	" 4	42.50	20.12	18.47	+1.65	11.12	11.93	-0.81	Zero.	
	" 5	51.87	24.25	22.43	+1.82	13.50	14.49	-0.99	Plus.	
	" 6	43.37	20.00	18.91	+1.09	11.90	12.22	-1.22	"	
	" 7	50.50	23.12	21.99	+1.13	12.37	14.21	-1.84	"	
	" 8	50.25	22.50	21.99	+0.51	11.25	14.21	-2.96	"	Desk touched knees.
	" 9	47.25	21.87	20.67	+1.20	11.37	13.35	-1.98	Zero.	" " "
	" 10	47.62	21.50	20.67	+0.83	11.75	13.35	-1.60	Minus.	
				Av. +1.03			Av. -1.78			
Style B	No. 1	41.00	19.25	18.03	+1.22	10.50	11.65	-1.15	Plus.	
	" 2	41.62	19.37	18.03	+1.34	9.62	11.65	-2.03	Minus.	
	" 3	41.00	19.50	18.03	+1.47	10.00	11.65	-1.65	Plus.	
	" 4	40.37	19.50	17.50	+1.91	10.00	11.36	-1.36	Zero.	
	" 5	41.75	19.37	18.03	+1.34	10.25	11.65	-1.40	Minus.	
	" 6	40.00	19.50	17.50	+1.91	10.37	11.36	-0.99	Zero.	
	" 7	42.87	19.50	18.47	+1.03	10.87	11.93	-1.06	Minus.	
	" 8	43.62	20.87	18.91	+1.96	11.75	12.22	-0.47	Zero.	
	" 9	42.62	22.75	18.47	+4.28	12.25	11.93	+0.32	Minus.	Desk uneven.
	" 10	45.37	22.75	19.79	+2.96	11.00	12.78	-1.78	Plus.	" " chair loose.
				Av. +1.94			Av. -1.15			
Style C	No. 1	41.12	19.25	18.03	+1.22	11.00	11.65	-0.65	Minus.	
	" 2	41.37	19.25	18.03	+1.22	11.00	11.65	-0.65	"	
	" 3	41.50	19.25	18.03	+1.22	11.00	11.65	-0.65	"	
	" 4	41.37	19.25	18.03	+1.22	11.00	11.65	-0.65	"	
	" 5	42.00	20.06	18.47	+1.59	11.34	11.93	-0.39	"	
	" 6	41.25	19.25	18.03	+1.22	11.00	11.65	-0.65	"	
	" 7	40.75	19.25	17.50	+1.66	11.00	11.36	-0.36	"	
	" 8	41.00	19.25	18.03	+1.22	11.00	11.65	-0.65	"	
	" 9	42.12	20.87	18.47	+2.40	12.12	11.93	+0.19	"	
	" 10	45.25	21.66	19.79	+1.97	12.06	12.78	-0.12	"	
				Av. +1.49			Av. -0.45			

TABLE VIII., SHOWING TIME TAKEN (1) BY EXPERT (2) BY JANITOR IN ADJUSTING STYLES A, B, AND C OF SCHOOL FURNITURE IN USE IN CHOATE BURNHAM SCHOOL, SOUTH BOSTON.

STYLE.	TIME TAKEN						
	(1) BY EXPERT.			(2) BY JANITOR.			
	To adjust Ten Desks and Chairs for Ten Designated Children.	To adjust Ten Desks and Chairs at Prescribed Heights.	Total Time. (Minutes.)	Average Time. (Minutes.)	To adjust Ten Desks and Chairs for Ten Designated Children.	Average Time. (Minutes.)	Time Required for One Hundred Desks and Chairs.
A	17 minutes.	10.5 minutes.	27.5	2.75	32.5 minutes.	3.25	5 hours 25 minutes.
B	13.5 minutes.	12.75 minutes.	36.25	3.62	33.5 minutes.	3.35	5 hours 35 minutes.
C	12.5 minutes.	114.5 minutes.	27.0	2.70	23.0 minutes.	2.30	3 hours 50 minutes.

¹ The same expert took 9.5 minutes to adjust ten desks and chairs according to prescription in "scale numbers" instead of specified heights.

CHARACTERISTICS OF ADJUSTABLE FURNITURE NOW IN USE.

The salient characteristics of the four kinds of adjustable desks and chairs now in use, viz., Chandler or "Roulstone," "Globe," "Peerless" or Bobrick, and Perry styles are set forth below with the aid of cuts which were politely furnished

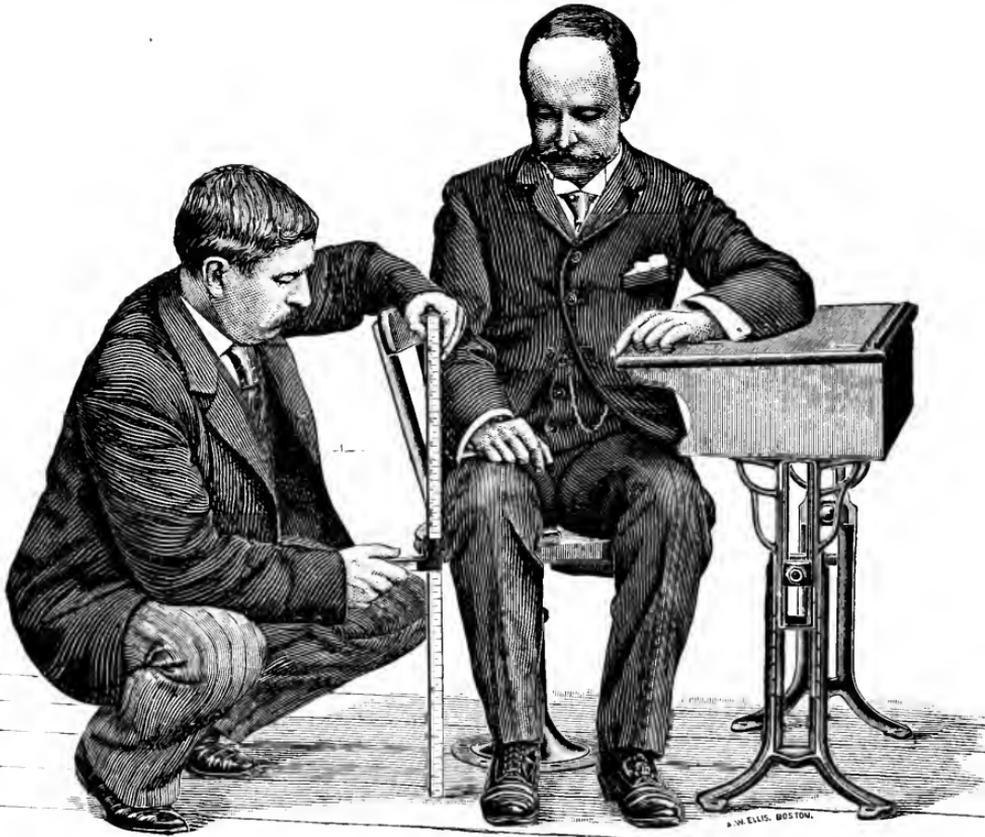


FIGURE 4.

by Messrs. Hill, Hockaday, Bobrick, and Perry, for use in this report.

Fig. 4 represents the Chandler seat and the method of using the measuring-rod to determine the height at which chair and desk should be set. By bringing the sliding arm of

the rod against the under surface of the thigh in the hollow of the sitter's knee, the knee-height which equals chair-height, is found and read off. The chair-height being determined, it is only necessary to turn the rod to read off from the condensed scale of elbow-heights, which is inscribed on another side of the rod, the corresponding height of desk. The directions for adjusting are thus given in the Chandler Company's catalogue: "Adjust the chair first; then the desk.

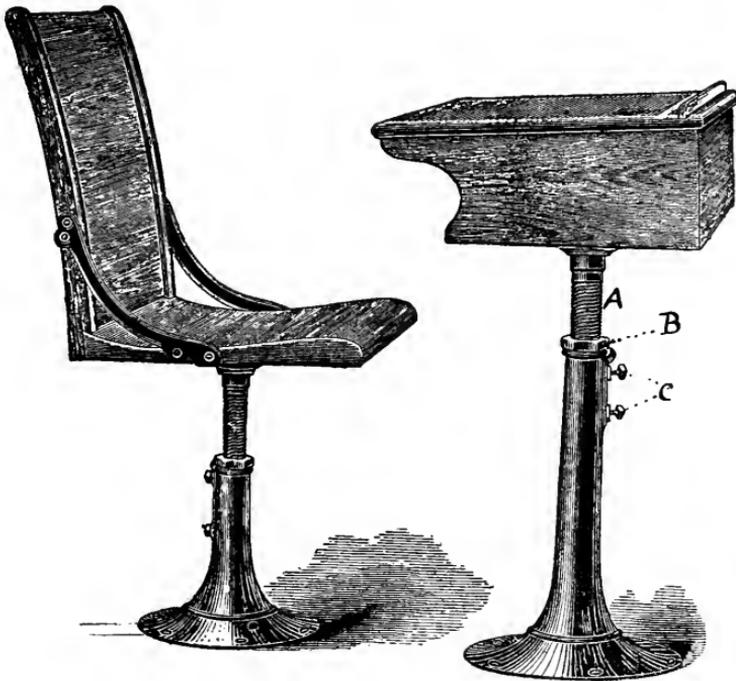


FIGURE 5.

With wrench which we supply loosen the nut on the bolt, place chair or desk at desired height, then turn nut tight."

The rod and scale alluded to above have been adopted by the Chandler Company since their catalogue was published. The use of any scale is scouted in the catalogue. Aside from the sliding frame attached to bottom of chair and desk, which is fastened by an adjustment bolt, the only novelties requiring mention in this style of seat are the flat

shoulder support, and the curve of the middle piece of the chair-back, which is intended to support the pupil's back in the lumbar region.

Fig. 5 represents the "Globe" chair and seat. Its single-pillared pedestal which supports the desk seems to me objectionable, as the pedestal is in the way of the pupil's feet, so that his position is not a natural one if he is careful to put them flat upon the floor. Experience in the Perkins Primary School shows that to secure a minus distance it is necessary

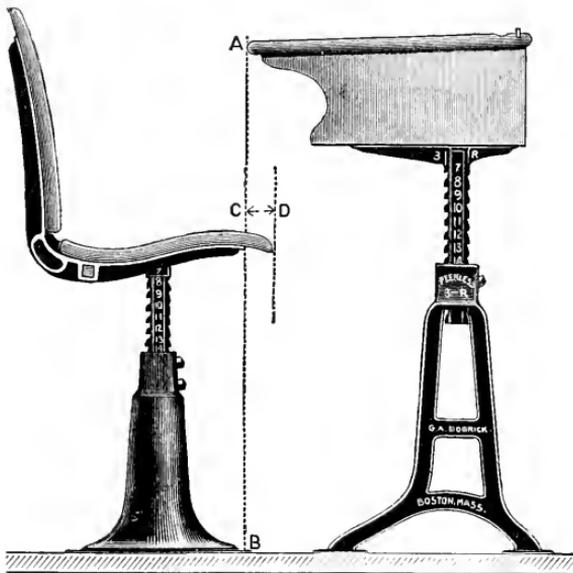


FIGURE 6.

to bring the flanges of the chair and desk supports so near to one another as to prevent the children from placing their feet flat upon the floor. It will be noticed that the chair-backs shown in Fig. 5 and in Fig. 6 differ from the usual type of chair-back in being continuous instead of open, as in Fig. 3. In my opinion the continuous back is superior to the open back, with vertical lumbar-rest and transverse shoulder-rest, since it affords a broader surface to fit the hollow of the back. As between continuous chair-backs, such as are represented in Figs. 5 and 6, and the open style of chair-

back shown in Fig. 1, with transverse props at S and J, I prefer the latter, since it affords a free space between the rear edge of the seat and the lower edge of the loins-support. This is certainly a convenience when we consider the more voluminous clothing worn by school-girls. The Globe Company has adopted no particular scale, so far as I know.

The Bobrick or "Peerless" desk and chair are shown in Fig. 6. Attention has just been called to the general character of its chair-back, but it may be noted further that the lower third of the back-support is perpendicular, while the upper part (two-thirds) is inclined 10 degrees.

Aside from the mechanical devices for securing desk and chair-supports at the requisite heights, the most characteristic feature of the "Peerless" is found in the notched and bevelled desk- and chair-supports. The position of these notches is determined on the basis of the scale of heights adopted by Mr. Bobrick. The notches in the two supports bear a fixed relation, viz., that of "the difference" to each other, and are indicated by corresponding numbers, which correspond also to the scale numbers on the measuring rod represented in Fig. 7. The directions for adjusting these desks and chairs are given as follows:

1. Assign the pupils to their desks and measure their heights with the scale furnished by us for that purpose.
2. Record the heights of the pupils on slips of paper, and place on each desk a slip with the number indicating the height of the pupil that will occupy the desk.
3. Loosen the set-screws of all the desks and seats.
4. Adjust all the desks and seats to the corresponding numbers, as indicated on the slips.
5. Refasten all the set-screws.

For measuring the heights of the pupils, we furnish a scale. (See Fig. 7.) It gives the heights of the pupils in numbers. *Bobrick's newest scale is also graded for knee-heights.*

The heights of the desks and seats are indicated by cor-

responding numbers cast on both sides of the desk-and-chair-supports.

Each number of the desk-support, when set so as to be seen



FIGURE 7.

above the head of the desk-bracket, indicates a certain height of the desk on line A-B, and each number of the chair-support, when set so as to be seen above the head of the chair-pedestal, indicates a certain height of the seat on line C-B.

For instance, a pupil between 40–42 inches in height is a No. 1, requiring a No. 1 desk and seat, a pupil between 42 and 44 inches in height is a No. 2, requiring a No. 2 desk and seat, etc.



FIGURE 8.

The Perry adjustable desk and chair are shown in Fig. 8. The numbers cast in the desk-and-chair-supports correspond to the sizes of the graduated Whitcomb scale. No particular form of measuring-rod or height-scale is used in determining the heights of desk and chair for the adjustment of this style of furniture. But I am informed that Mr. Perry intends to adopt such a scale, and to change his adjustment devices in certain important respects. The curved lumbar back-rest is an improvement upon the old Whitcomb chair-back. It is noteworthy that all all the desks figured here have tops that are insufficiently sloped.

SCALES FOR GRADING SEAT-SIZES.

The fixed furniture customarily furnished in fitting up new schools in Boston, prior to the recent advent of adjustable

furniture, is made in various sizes according to the so-called Whitcomb scale, which is as follows :

Scale number.....	VII.	VI.	V.	IV.	III.	II.	I.	II.extra.	I.extra.
Age of pupil.....	5-6	6-7	7-8	8-10	10-12	12-14	14-18	14-16	16-18
Height of chair.....	10.50	11.25	12.25	13.50	14.50	15.50	16.75	15.50	16.75
Height of desk.....	20.50	21.50	23.00	24.50	25.50	27.00	28.50	27.50	29.00
Difference.....	10.00	10.25	10.75	11.00	11.00	11.50	11.75	12.00	12.25

Numbers VII.-V., inclusive, are for primary schools ; numbers IV.-I., for grammar schools, and Numbers II.-I., extra, for high schools, academies, etc. On its face this is an age-scale and nothing else.

Dr. Scudder has called attention (op. cit.) to the traditional nature of this scale and to the manner in which it is used. His remarks on these points are as follows :

The method of providing seats and desks for the various school-houses of Boston is somewhat as follows :

A school-house is built and ready for seats. The Commissioner of Public Buildings, or his assistant, having ascertained the grade of the school and the number of pupils to be accommodated in each room, sends an order to the manufacturer of school furniture who is fortunate enough to hold the contract for the current year, to seat and desk the building. The manufacturer, knowing approximately the ages of the children who will attend a school of the given grade, provides desks and seats as he sees fit, furnishing one, two, or three sizes to a single room, as he is inclined, or as may have been suggested by the head-master of the school.

How does the manufacturer determine the sizes that shall be sent to meet the requirements of certain ages? After corresponding and talking with those who have supplied for many years large cities and Boston with school furniture, I find it impossible to learn how the standard of the height of desk and chair has been determined. *The standard for the gradation of the modern school-desks has evidently been handed down from one generation to the next, until it can no longer be traced to its originator.*

As I have shown below (see Table X.), the Whitcomb scale is probably derived from a height-scale originated by Dr. Henry Barnard, in 1838.

TABLE IX. SHOWING DISTRIBUTION OF HEIGHT IN INCHES, BY AGE AND SEX, OF 1,528 BOSTON PRIMARY SCHOOL CHILDREN.

Inches	14 years.	13 years.	12 years.	11 years.	10 years.	9 years.	8 years.	7 years.	6 years.	5 years.	4 years.	Boys.	Girls.	Total.
59		1				1						2	0	2
58				1								1	1	2
57					1							0	1	1
56	1		1									2	2	4
55		2	2		1	1						5	4	12
54		2	4	1	1	1						10	5	20
53		1		3	6	7	4	2				14	23	37
52				3	3	4	2					2	12	44
51			1	1	8	9	5	4				20	28	55
50		1	1	1	4	20	20	10	1			6	47	130
49					2	9	14	6				21	31	85
48				1	1	3	20	16				20	41	113
47					7	30	4	10	9			142	62	164
46				1	5	25	40	20	2			70	77	173
45			1		2	7	20	16	18			40	73	165
44					1	6	11	24	11			43	57	115
43						6	17	18	16			47	51	113
42							5	24	22	4		49	55	111
41						1	1	13	20	2		2	35	72
40							1	9	22	3		2	35	72
39						1		6	12	1		22	21	45
38							1	1	8	3		7	14	21
37								2	5			0	7	7
36									1	1		2	3	6
Boys	2			18	40	107	200	190	183	110	4	575	650	
Girls	1	3	4	13	29	64	121	152	146	106	11	690		1,528
Total	3	3	7	31	69	167	321	342	329	216	15	1,265	650	1,528

I have compiled the Table IX. to show the distribution by sex, age, and height, of 1,528 primary school children in certain districts of the city, whose seating I have had particular occasion to investigate. Inspection of the table shows that the range of height in children of the same age is so great that no dependence whatever can be put upon a mere age-scale as a guide in grading the sizes of school-seats and desks. For instance, according to the Whitcomb age-scale, 254 No. VII. chairs and desks would suffice to seat the 254 children *five years old or under* whose heights are found in the last three age-columns of Table IX. If, however, we make use of the Whitcomb scale, after changing it to a height-scale (see p. 205), we find that 191 No. VII., 53 No. VI., 8 No. V., and 2 No. IV. chairs would be needed to seat the children in question. According to the Bobrick height-scale (see Table XI.) the number of each size of chair and desk would be: 28 No. O., 74 No. I., 89 No. II., 53 No. III., 8 No. IV., and 2 No. 2.

I have prepared a table, given below, which affords a comparison between height of chairs, height of desk, and difference corresponding to the scale numbers of several systems of school-seating formerly used in Boston and elsewhere in New England. The figures given, excepting those of the Whitcomb scale which is the most modern, are taken from Barnard's "School Architecture," New York, 1854. As the first edition of that work was published in 1848, it is probable that most of the scales in question were in use before 1848. *The Barnard scale, as I shall show later on, was based on measurements of children made as early as 1838.*

TABLE X., SHOWING HEIGHT OF DESK, HEIGHT OF CHAIR, AND DIFFERENCE, ACCORDING TO CERTAIN SYSTEMS OF GRADING FIXED FURNITURE.

SYSTEM.	Whitcomb.	Ross.	Wales.	Mott.	Barnard.	Fahrner.
	1.	2.	3.	4.	5.	6.
Scale number	VII.	VII.	I.	I.	I.	I.
Height of desk	20.50	20.50	20.00	17.00	19.50-20	18.30
“ “ chair	10.50	10.00	10.00	10.00	9.50-10	11.22
Difference	10.00	10.50	10.00	7.00	10.00	7.08
Scale number	VI.	VI.	II.	II.	II.	II.
Height of desk	21.50	21.25	21.00	19.00	20.50-21	20.07
“ “ chair	11.25	11.00	11.00	12.00	10.50-11	12.40
Difference	10.25	10.25	10.00	7.00	10.00	7.67
Scale number	V.	V.	III.	III.	III.	III.
Height of desk	23.00	22.00	22.00	22.00	22.00	21.85
“ “ chair	12.25	12.00	12.00	14.00	12.00	13.58
Difference	10.75	10.00	10.00	8.00	10.00	8.27
Scale number	IV.	IV.	IV.	IV.	IV.	IV.
Height of desk	24.50	23.00	23.00	24.00	23.00	23.62
“ “ chair	13.50	13.00	13.00	16.00	13.00	14.76
Difference	11.00	10.00	10.00	8.00	10.00	8.86
Scale number	III.	III.	V.	.....	V.	V.
Height of desk	25.50	24.50	24.00	.....	24.00	25.39
“ “ chair	14.50	14.00	14.00	.....	14.00	15.94
Difference	11.00	10.50	10.00	.....	10.00	9.45
Scale number	II.	II.	VI.	.....	VI.	VI.
Height of desk	27.00	26.00	25.50	.....	25.00	27.16
“ “ chair	15.50	15.00	15.00	.....	15.00	17.12
Difference	11.50	11.00	10.50	.....	10.00	10.04
Scale number	I.	I.	VII.	.....	VII.	VII.
Height of desk	28.50	27.50	27.00	.....	26.50	27.75
“ “ chair	16.75	16.00	16.00	.....	16.50	17.12
Difference	11.75	11.50	11.00	.....	10.00	10.63

TABLE X.—*Concluded.*

SYSTEM.	Whitcomb.	Ross.	Wales.	Mott.	Barnard.	Fahrner.
	1.	2.	3.	4.	5.	6.
Scale number	II. extra.	.....	VIII.	.....	VIII.	
Height of desk.....	27.50	.....	28.50	.....	27.50-28.00	
“ “ chair	15.50	.....	17.00	.....	17.00-17.50	
Difference	12.00	.....	11.50	.....	10.50	
Scale number	I. extra.	I. extra.				
Height of desk.....	29.00	29.00				
“ “ chair	16.75	17.00				
Difference	12.25	12.00				

EARLIEST AMERICAN AND EUROPEAN SCALES.

The Barnard scale appears to be the first original American scale for school-seating, and it is probably fair to say that the other American scales given in Table X. were more or less directly derived from it. In column 6, I have placed the earliest European scale known to me, viz.: that of Dr. Fahrner, of Zürich, which is based on his measurements in respect to height of 1,789 Zürich school-children. It was published at least as early as 1865, possibly in 1863. Like most European scales it was intended to be a guide in seating children between 6 and 14 years of age. Most American scales relate to a wider range of age, *e.g.*, the Whitcomb scale for pupils of 5-18, the Barnard scale 4-20.

I quote from a recent letter received by me from Dr. Henry Barnard, of Hartford, Conn., the author of "School Architecture," and of the scale given in column 5, of the above table: "Yes, the scale of dimensions and respective heights of desk and seat for at least eight groups from the 'tots' up to young men and young women, printed on page 343 of my 'School Architecture,' Cincinnati, 1854, [I think identically the same as that printed in New York in 1854,] is the final result of hundreds of measurements of *groups* of two to eight

children of about the same age, begun as early as 1838, on a challenge that I could not make a scale which would meet the varying heights of pupils from four years of age up to twenty. The most successful effort was in seating the school-rooms described on pages 113, 115 [in Windsor and Bloomfield, Conn., respectively]. It was said at the time, 1841-42 that every pupil in the school in Windsor when seated for study or writing was perfectly comfortable, — feet resting on floor, and no conscious strain on muscles below or above the knee, or in arms or shoulders." So much cannot be said of the majority of Boston school-children to-day.

Barnard, like Alcott and Horace Mann, approved of a zero distance. According to Barnard the desk-slope should be one inch in a foot and the back of the seat "should rise above the shoulder-blades, and should in all cases incline back as it rises, one inch in every foot." As to height of seat for little children, he notes a point which seems to have been too much neglected by his successors. "In a primary school," he says, "composed of children from four and even three years of age to eight or ten, the height [of seats] should *vary from 8-12 inches*, and the width (depth) *from 6-10 inches*, and for a school for pupils ranging from ten to sixteen years of age, the height of the seats should vary from *10-17 inches*, and the width (depth) *from 8-13 inches*." Though Fahrner does not quote Barnard, it is clear from citations made by Cohn, Lorenz and others, that Barnard is recognized in Europe as a pioneer in school-seating.

COMPARISON OF AMERICAN AND EUROPEAN SCALES.

This table is reprinted from my last report. It shows the number of pupils at each inch of height, from 41 to 71 inches, in the Agassiz District, January, 1893, and affords a comparative view of the number of seats of each size required, according to the Whitecomb scale, reduced to terms of height, and the standards adopted at Frankfort-on-the-Main, in 1885; by the Prague Commission in Bohemia, in 1892-93; by the Vienna

TABLE XI. SHOWING NUMBER OF EACH SIZE OF CHAIRS AND DESKS REQUIRED TO SEAT THE 668 PUPILS RANGING IN HEIGHT FROM 41-71 INCHES IN AGASSIZ DISTRICT, 1893, ACCORDING TO VARIOUS SCALES BASED ON BODILY HEIGHT.

Number of pupils at each height	9	7	11	17	14	17	17	21	23	24	36	37	48	44	61	44	40	38	34	24	22	23	16	9	7	18	8	2	0	4	1	1
HEIGHT-SCALE.																																
Inches	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
Centimeters	101.6	104.1	106.6	109.2	111.7	114.3	116.8	119.3	121.9	124.4	127.0	129.5	132.0	134.6	137.1	139.7	142.2	144.7	147.3	149.8	152.4	154.9	157.4	160.0	162.5	165.1	167.6	170.1	172.7	175.2	177.8	180.3
Whitcomb, Boston, Scale Nos.	No. VII.		No. VI.		No. V.		No. IV.			No. III.			No. II.			No. I.			No. I, extra large.													
No. needed of each size	25		31		38		120			153			180			77			34					668								
Frankfort Scale Nos. 1885	No. O.		No. I.			No. II.			No. III.			No. IV.			No. V.		No. VI.		No. VII.		No. VIII.											
No. needed of each size	35		60			120			197			236			61		34		10		1		668									
Prague Commission's Scale Nos. 1892-93	No. I.	No. II.		No. III.		No. IV.		No. V.		No. VI.		No. VII.		No. VIII.		No. IX.		No. X.		No. XI.		No. XII.										
No. needed of each size	0	35		31		38		47		121		105		84		96		45		32		34		668								
Vienna Commission of Expert's Scale. 1892	No. I.		No. II.			No. III.			No. IV.			No. V.			No. VI.		No. VII.		No. VIII.													
No. needed of each size	60		85			121			180			118			55		28		6			668										
Hobrick's Scale. Adjustable seats. 1892	No. I.	No. II.		No. III.		No. IV.		No. V.		No. VI.		No. VII.		No. VIII.		No. IX.		No. X.		No. XI.		No. XII.		No. XIII.		No. XIV.		No. XV.		No. ?		
No. at each position	7	28		31		38		47		73		92		105		78		58		45		25		25		10		4		2		668
Seats actually furnished, Whitcomb's sizes, including 34 unoccupied	No. VII.		No. VI.		No. V.		No. IV.			No. III.			No. II.			No. I.			No. I, extra large.													
Difference	28		81		60		156			141			148			88			0					702								
	-7		+50		+22		+36			-12			-32			+11			-34													

Commission of Experts ; and by G. A. Bobrick, C.E., of Boston, the inventor of a system of adjustable desks and chairs. All of the scales, but the last mentioned, relate to furniture fixed as to difference, and all of them are based on average bodily height as a modulus. The scale-numbers of the Bobrick scale stand for positions in which his *three sizes* of desks and seats may be adjusted. It is evident from inspection that adjustable furniture is capable of being much more accurately adapted to pupils differing in height. The Frankfort, Prague, and Vienna scales are based on careful measurements of large numbers of school-children for whose use the variously sized desks were intended.

The height of children of different races and social classes varies so widely that the adoption for American children of any European height-scale for the purpose of grading school seats would almost certainly prove illusory and disappointing.

TABLE XII., SHOWING DESK HEIGHT, A; SEAT HEIGHT, B; AND DIFFERENCE, C, CALCULATED FOR EACH INCH OF HEIGHT (70-36 INCHES) ACCORDING TO (1) EULENBERG AND BACH, (2) "COMPOSITE," AND (3) BOBRICK SCALES OF HEIGHT.

Height in Inches.	A.			B.			C.			Height in Inches.
	Height of Desk in Inches.			Height of Chair in Inches.			Difference in Inches.			
	1	2	3	1	2	3	1	2	3	
70	30.990	30.797	30.800	19.090	19.894	20.020	11.900	10.902	10.780	.. 70
69	30.547	30.357	30.360	18.817	19.610	19.734	11.730	10.746	10.626	.. 69
68	30.104	30.917	29.920	18.544	19.326	19.448	11.560	10.590	10.472	.. 68
67	29.662	29.477	29.480	18.272	19.042	19.162	11.390	10.434	10.318	.. 67
66	29.219	29.037	29.040	17.999	18.757	18.876	11.220	10.278	10.164	.. 66
65	28.776	28.597	28.600	17.726	18.473	18.590	11.050	10.122	10.010	.. 65
64	28.334	28.157	28.160	17.454	18.189	18.304	10.880	9.966	9.856	.. 64
63	27.891	27.717	27.720	17.181	17.905	18.018	10.710	9.810	9.702	.. 63
62	27.448	27.277	27.280	16.908	17.621	17.732	10.540	9.654	9.548	.. 62
61	27.005	26.837	26.840	16.636	17.336	17.446	10.370	9.498	9.394	.. 61
60	26.563	26.397	26.400	16.363	17.052	17.160	10.200	9.342	9.240	.. 60

TABLE XII. — *Concluded.*

Height in Inches.	A. Height of Desk in Inches.			B. Height of Chair in Inches.			C. Difference in Inches.			Height in Inches.
	1	2	3	1	2	3	1	2	3	
59	26.120	26.957	25.960	16.090	16.768	16.874	10.030	9.186	9.086	.. 59
58	25.677	25.517	25.520	15.817	16.483	16.588	9.860	9.030	8.932	.. 58
57	25.235	25.077	25.080	15.545	16.199	16.302	9.690	8.874	8.778	.. 57
56	24.792	24.637	24.640	15.272	15.915	16.016	9.520	8.718	8.624	.. 56
55	24.349	24.197	24.200	14.999	15.631	15.730	9.350	8.562	8.470	.. 55
54	23.906	23.757	23.760	14.726	15.347	15.444	9.180	8.406	8.316	.. 54
53	23.464	23.317	23.320	14.454	15.063	15.158	9.010	8.250	8.162	.. 53
52	23.021	22.877	22.880	14.181	14.778	14.872	8.840	8.094	8.008	.. 52
51	22.578	22.437	22.440	13.908	14.494	14.586	8.670	7.838	7.854	.. 51
50	22.136	21.998	22.000	13.636	14.210	14.300	8.500	7.782	7.700	.. 50
49	21.693	21.558	21.560	13.363	13.926	14.014	8.330	7.626	7.546	.. 49
48	21.250	21.118	21.120	13.090	13.641	13.728	8.160	7.470	7.392	.. 48
47	20.807	20.678	20.680	12.817	13.357	13.442	7.990	7.314	7.238	.. 47
46	20.365	20.238	20.240	12.545	13.073	13.156	7.820	7.158	7.084	.. 46
45	19.922	19.798	19.800	12.272	12.789	12.870	7.650	7.002	6.930	.. 45
44	19.479	19.358	19.360	11.999	12.505	12.584	7.480	6.846	6.776	.. 44
43	19.036	18.918	18.920	11.726	12.220	12.298	7.310	6.690	6.622	.. 43
42	18.594	18.478	18.480	11.454	11.936	12.012	7.140	6.534	6.468	.. 42
41	18.151	18.038	18.040	11.181	11.652	11.726	6.970	6.378	6.314	.. 41
40	17.708	17.598	17.600	10.908	11.368	11.440	6.800	6.222	6.160	.. 40
39	17.266	17.158	17.160	10.636	11.084	11.154	6.630	6.066	6.006	.. 39
38	16.823	16.718	16.720	10.363	10.799	10.868	6.460	5.910	5.852	.. 38
37	16.380	16.278	16.280	10.090	10.515	10.582	6.290	5.754	5.698	.. 37
36	15.937	15.838	15.840	9.817	10.231	10.296	6.120	5.598	5.544	.. 36

The above table is constructed to show the variation in height of desk, height of chair, and difference presented by three different modern scales based on total height of the body. I have calculated the heights and differences set forth in this table, according to three distinct but similar formulæ, viz., (1) that of Eulenberg and Bach (see p. 172); (2) that which I have termed "Composite," which is compounded from

the rules set down by several careful writers; and (3) the formula adopted by Bobrick. The figures in this table purporting to correspond to the Bobrick scale are not identical with those found in his published scale, in which he has made use of a coefficient of correction, thereby following certain European scales, *e.g.*, Erismann's, Fahrner's, and Uffelmann's.

The figures set down in the columns marked 1, 2, and 3 were obtained by using the formulæ above designated as (1) (2) and (3) respectively. Those formulæ may be expressed as follows:

(1)	Height of desk	= 44.272	per cent.	of total height.		
(2)	“	“	= 43.996	“	“	“
(3)	“	“	= 44.000	“	“	“
(1)	“	of seat	= 27.272	“	“	“
(2)	“	“	= 28.421	“	“	“
(3)	“	“	= 28.600	“	“	“
(1)	Difference	= 17.000	“	“	“	“
(2)	“	= 15.575	“	“	“	“
(3)	“	= 15.400	“	“	“	“

The table serves, to my mind, to show the difficulty of using average heights as an accurate criterion in determining the dimensions of desk and chair for either fixed or semi-adjustable furniture. With fixed furniture, however, we must be content with scales of this nature in grading the sizes of desks and chairs; but, as I have already remarked, only approximately accurate seating can be obtained with fixed furniture.

The ratio of height of knee and the ratio of height of elbow (in the sitting posture) to total height varies markedly in the two sexes, and at different ages in the same sex. So much do these ratios vary that I am convinced that scientific accuracy of seating (which is what the designers of adjustable and semi-adjustable furniture profess to offer us) is not attainable unless the height of knee, elbow, etc., are taken, as well as the total height, in each individual case as the data for prescribing the height of seat and desk.

SCALE ADOPTED BY THE PRAGUE COMMISSION.

The table of normal dimensions of desks and seats for pupils ranging between 95–165 centimeters in height and 6–14 years in age adopted by the Prague commission of experts in 1892–93, is introduced below as it is the latest, and in some respects the fullest and most suggestive that has come under my notice.

TABLE XIII, SHOWING NORMAL DIMENSIONS¹ OF DESKS AND SEATS I-XII, GRADED ACCORDING TO RECOMMENDATIONS OF PRAGUE EXPERT COMMISSION ON SCHOOL-SEATING, 1892-93.

DESK NUMBER.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.
1. Age of pupil.....	6.	7.	7.	8.	8.	9.	9.	11.	11.	13.	13.	14.
2. Height of pupil.....	95-104	105-110	111-116	117-122	123-128	129-134	135-140	141-146	147-152	153-158	159-164	165+
3. Height of desk, corresponding to M D plus C in Fig. 1.....	52	53	56	59	61	63	66	68	70	72	75	78
4. Height of seat, corresponding to C in Fig. 1.....	29	30	32	34	35	36	38	40	41	42	44	46
5. Negative distance.....	10	10	10	10	10	10	10	10	10	10	10	10
6. Positive distance, corresponding to space D in Fig. 1.....	8	8	8	8	8	8	8	8	8	8	8	8
7. Difference between desk and book-shelf, corresponding to Z in Fig. 1.....	10	10	10	10	10	12	12	12	12	12	13	13
8. Difference, corresponding to M D in Fig. 1.....	23	23	24	25	26	27	28	29	29	30	31	32
9. Inclination of desk, M to L in Fig. 1.....	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°
10. Inclination of back of seat, J P in Fig. 1.....	10°	10°	10°	10°	10°	10°	10°	10°	10°	10°	10°	10°
11. Inclination of seat, E in Fig. 1.....	8°	8°	8°	8°	8°	8°	8°	8°	8°	8°	8°	8°
12. Depth of seat, E in Fig. 1.....	23	23	24	24	25	25	26	27	28	29	30	31
13. Width of open space between seat and lower edge of back support.....	12	12	13	13	14	14	14	14	15	15	15	16

¹The dimensions given in this table are given in centimeters.

SEXUAL DIFFERENCES IN RESPECT TO HEIGHT.

Fahrner recommended a "difference" of one-eighth of the total height for boys, and one-seventh for girls, on account of the "bunchiness" of the girls' clothing. But I feel convinced from my own observations and from my study of heights and lengths of various parts of the bony framework of the body as set forth by other observers (Dr. D. A. Sargent's anthropometrical charts have been of especial service to me in this connection) that there is a deeper reason for thinking that different height-scales should be used in seating boys and girls respectively.

Females have relatively longer trunks and shorter lower limbs than males; hence girls can sit in lower chairs and write comfortably at somewhat higher desks than can boys of the same total height. Furthermore both the arms and forearms of females are relatively as well as absolutely shorter than those of males; hence a seat placed at a plus, zero, or insufficient minus distance from its desk is calculated to produce weariness, distortion, and deformity more readily in the case of girls than of boys. In the inevitable and unequal contest between the force of gravity and muscular exertion which results from unhygienic seating (when average height without discrimination as to sex is used as the modulus) the ill-seated girl is placed at a greater disadvantage than the ill-seated boy of the same height. Hence I am led to think that one reason for the occurrence of a larger percentage of cases of curvature of the spine among schoolgirls than among schoolboys (and scoliosis is now generally recognized as a school-disease) is to be found in the fact that the legs and arms of girls are shorter than those of boys of corresponding height. So far as I can learn no writer has called attention to this fact, hitherto, as a reason for the greater liability of girls to scoliosis, but the fact, if it shall be established by wider investigations, is none the less worthy of consideration on that account, I should say.

INDIVIDUAL MEASUREMENTS VERSUS AVERAGE HEIGHT-
SCALES.

Furthermore, in determining the difference between desk-height and seat-height for children of different heights and ages, it must not be forgotten that the legs, *i.e.*, knee-heights of young children of both sexes, are relatively less in proportion to their total height than is the case in adolescents or adults. This fact also seems to me to militate against the value of scales based simply on average heights, as is the usual custom when scales are employed. Therefore I have given some thought to devising a measuring-chair by means of which we can secure the data requisite for prescribing accurately the height of desk, height of seat, and depth of seat for every child to whom an adjustable desk and chair are assigned. Such a chair, which I propose to call the Boston School Measuring-chair, is now in course of construction at our Mechanics Arts High School. If this chair shall prove a convenient means of securing a more accurate adjustment of our adjustable desks and chairs to their occupants it will be placed at the disposal of the public; but first of all at the disposal of the Boston School Committee for use in our own schools. In any event I desire to express my obligation to Dr. H. P. Bowditch, Professor of Physiology in the Harvard Medical School; to Mr. Charles W. Parmenter, head-master; and Mr. Benjamin F. Eddy, instructor in the Mechanic Arts High School, for valuable aid and suggestions in perfecting the design and construction of the chair, which is figured and described below. I may add that, though I have found mention of chairs used for a similar purpose in Frankfort-on-the-Main, and in Prague, I have not been able to find any serviceable description of them. It is quite possible that by means of the Boston School Measuring-chair, should its use become general, we shall be enabled to secure sufficient data for constructing a more satisfactory system of scales than any which are in use at present. in connection with either fixed or adjustable furniture.

BOSTON SCHOOL MEASURING-CHAIR.

Figure 9 is a reproduction of the working drawing used in the construction of the Boston School Measuring-chair. The framework of the chair is not adjustable. The seat B,

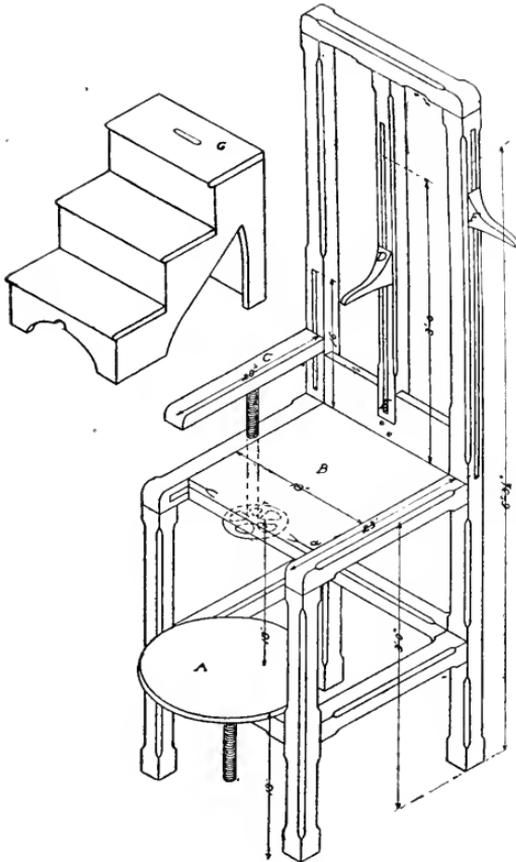


FIGURE 9.

the foot-board A, the arm-rest C, and the cap-pieces D and F are adjustable. The seat B is placed 30 inches above the floor to enable the observer to read the metric scales (not shown in the figure), without his having to crouch. The steps G are for the use of the sitter in mounting the chair, A being a foot-rest and not a step. The seat B is made to slide forwards and backwards, so that its front edge can be brought into contact with the posterior surface of the leg, in the hollow of the knee, where the leg makes a right

angle with the thigh in the knee-joint. The feet are to be placed flat upon the foot-board A, which can be raised and lowered by a rotary motion. The arm-rest C can also be raised and lowered to provide a firm support to the under surface of the forearm, when the latter makes a right angle in the elbow-joint with the arm of the sitter. The vertically

sliding cap-pieces D and F are used in determining sitting and standing height respectively.

When the occupant of the chair sits erect, having his back against the back of the chair, his feet resting flat upon A, the posterior surface of his leg (which is flexed at a right angle to the thigh) being in contact with the front edge of the seat B, his forearm (which is bent upon the arm at a right angle in the elbow-joint) being supported by C, and the cap D resting lightly upon his head, — the observer has but to note the following distances to secure the data requisite for prescribing the dimensions of the seat best adapted to meet the individual needs of the sitter. Those distances are: (1) the distance of the under surface of D to the upper surface of B, which equals sitting height; (2) the distance between the upper surfaces of A and B, which equals height of knee; (3) the distance between the front edge of B and the back of the chair, which equals depth of seat; and (4) the distance between the upper surfaces of B and C, which equals the difference, which being added to A B, height of seat, gives the height of desk. The height of desk may be directly deduced from the height of C above the foot-rest. The height of lumbar back-rest is easily determined by noting (on a metric scale placed on the middle pillar of the chair-back) the height of the lower ribs and of the upper border of the pelvis.

The measurements of each child observed being recorded by the master, or other competent observer, on a specially printed card, which bears the name, class, and number of the child, that card will serve for the accurate guidance of the janitor in adjusting the seat and desk assigned to the child, until the growth of the child necessitates remeasurement and a new card. For adjusting the semi-adjustable furniture now in use in our schools, it is necessary to know only the distances A B and B C in each case. If we shall ever have completely adjustable chairs, the measuring-chair will enable us to secure all the data requisite for prescribing their proper use. It is conceivable that

the janitors, through training and practice, may become competent to measure the children as well as to adjust their seats and desks.

Whatever course is pursued, whether we cling to the scales now in use, or determine the height of knee, and difference in the case of each individual; it will be found necessary, I believe, for the School Committee, through the appropriate sub-committees, to ordain certain rules and directions for the guidance of teachers and janitors in the seating of pupils.

NEED OF EXPERT COMMISSION.

American adjustable furniture is not automatically adjustable like the most highly developed forms of European school-desks, since the pupil has no control over their adjustment devices which relate almost entirely to adjustment for difference; and since adjustable furniture strictly speaking should be adjustable in other points no less important, our adjustable desks and chairs should be termed "semi-adjustable." it seems to me. The failure of American manufacturers of school furniture, hitherto, to keep pace with their European *confrères* seems to be largely due to the fact that they have received but little aid and stimulus from the studies and recommendations of American surgeons, oculists, mechanical engineers, and school officials, — all of whom have devoted comparatively little attention to the problem of school-seating. So far as I know we have never had a Committee of Experts on School Desks and Chairs in America. Our adjustable furniture is still in the stage of transition and tentative experiment. All of our leading inventors and manufacturers in this line have put forth and discarded some style or device within the last three years, and I am led to believe that all of them have valuable improvements under consideration or nearly ready for adoption.

This condition of things makes it seem not unlikely that an adjustable desk and seat which shall deserve the appellation of "hygienic" may be evolved in the United States within

the next ten years, especially if scientific experts can be induced to lend their aid in determining the dimensions and proportions of such furniture. But there is abundant evidence, it seems to me, that the time has not yet arrived for the general adoption of adjustable school-desks by the city of Boston or the cities of Massachusetts. Meanwhile let school authorities, medical and mechanical experts, and manufacturers take concerted action, in order that that time may be hastened!

No thoroughly accurate and adequate scale for determining the proper range of height in grading seats for Massachusetts children can be made until large numbers of city and country children in different parts of the State have been measured and remeasured in respect to total — and knee-height. The preparation and promulgation of such a scale might well be undertaken by a Massachusetts School Desk Commission, should such a commission be organized. It is hardly likely that the manufacturers and vendors of school-furniture will ever engage in an undertaking so purely scientific.

Meanwhile I believe that a thorough-going investigation into the present state of the seating of the pupils in all our schools is called for, so that the fixed furniture now in use may be used to the best advantage under the circumstances. To facilitate and guide the redistribution of fixed seats, and to serve as a basis for drawing up a clear and concise code of recommendations and regulations for the guidance of teachers and janitors in the assortment and adjustment of the adjustable furniture now in use, and likely to be purchased in the near future, I hold that such measurements as were made by Dr. H. P. Bowditch twenty years ago, in 1875, should be repeated on a larger scale.

On the main question of school-seating — the School Committee if it does not feel inclined to appoint a sub-committee to decide so intricate a question, would find ample justification in the example of the cities of Frankfort, Prague, Vienna, and Zürich should it secure the coöperation of the

necessary experts by the appointment of a school-desk commission. There never has been such a commission in the United States, but there is need of one here and now. The city or State which moves first in the matter will deserve the thanks of school managers, school-children, and the taxpayers throughout the country.

EDWARD MUSSEY HARTWELL,
Director of Physical Training.

REPORT OF CHARLES H. GRANDGENT, DIRECTOR
OF MODERN LANGUAGES.

To the Superintendent of Public Schools :

DEAR SIR: I have now been Director of Modern Languages for nearly six years, and have never before had a chance to make a report. I shall therefore take this opportunity to review briefly the history of the department during my term of service.

On assuming office, in the autumn of 1889, I found, in the ten day schools under my supervision, the greatest diversity of purpose, method, standards, and quality of instruction. Some of the teaching was excellent, some was exceedingly poor; in a few schools the course of study was comprehensive and well arranged, in others it was almost worthless. I say this without disparagement to my predecessor, who, at the time of his resignation, considered his labors as only begun. My two obvious and imperative duties were, therefore, the improvement of the corps of teachers and the construction of a rational programme. During these six years I have devoted myself principally to the accomplishment of these tasks.

Many alterations have been made in the teaching force of my department, and although it cannot be said that every individual change has been a change for the better, the general result has been a very decided improvement. It may not be out of place to call attention here to the undesirability of appointing a modern language instructor, under any circumstances whatever, without consulting the director. I have relied, however, in trying to raise the standard of our teaching, far less on change of instructors than on constant inspection, comparison, and advice. It is only just to say that the

teachers have responded in the friendliest spirit to all my efforts. As an incentive to study, I have, at various times, offered to the members of my department five courses in advanced composition work — two in French and three in German. Moreover, I have given individual help to several teachers who thought they needed such assistance.

Much praise is due to my three assistants for their faithful service. Their special duty is the teaching of French and German pronunciation and composition in the various schools. At first I had only two assistants, one for each language; but a third, whose specialty is German, has recently been added. The number of pupils is increasing to such an extent that it will soon be necessary either to employ still another foreigner or to let many classes do without this particular kind of training. In the four central schools no visiting Frenchman is required: in the Latin schools, because the time given to French is so short; in the two high schools, because some of the regular teachers are French and others are exceptionally competent. No foreigner visits either the German department of the English High School or the newly formed French classes in the Mechanic Arts High School. It seems to me advisable to increase the duties and the salary of my third assistant, who is now doing rather more than half work for considerably less than half pay; we shall then have three specialists, who can furnish a weekly total of about sixty hours' instruction. I think the rest of the work may safely be left to the regular teachers.

In the arrangement of a course of study several things were to be considered. My programme had to be elastic enough to allow for the special needs of the several schools and the personal characteristics of different teachers, and at the same time sufficiently rigid to insure everywhere a well-graded, interesting, and profitable course in French and German. Furthermore, I was obliged to utilize as far as possible the books already authorized and to proceed very gradually in the enrichment of our list. Our course of study has con-

stantly improved, and is now in fairly good shape; I expect, however, to make it better every year. Until 1894 my programme appeared every spring as a school document. Its existence in print has been a great convenience to our instructors. The little pamphlet has been in demand, also, among other teachers in various parts of the country. This last year I contrived, for economy's sake, to do without a printed revision of the course of study, but a new edition will be doubly needed this spring.

The aims and methods of our work were set forth in the first of these pamphlets. While giving due attention to grammar, composition, and oral exercises, we regard the ability to read and enjoy French and German literature as the end toward which all our efforts should converge. Our results, on the whole, are satisfactory. Pupils who have faithfully pursued our complete high school course can and do read good French and German books with pleasure, rapidly, intelligently, and appreciatively: they can, moreover, understand spoken French and German of moderate difficulty, and express themselves to a certain extent in these languages. This year very small circulating libraries of foreign books have been started, by private contribution, in most of the schools. The books are in constant demand. Even long and rather difficult French and German works are eagerly read and thoroughly enjoyed.

Our four years' high school programme is now so planned that boys and girls are fitted for the advanced requirements of Harvard and of all other institutions that have adopted the recommendations of the Association of New England Colleges. I would strongly urge the introduction of the full German course into the English High School, which at present offers no alternative to French until the third year. It seems to me that the scholars in this building ought to have the same opportunities as the pupils of our suburban schools. Moreover, it will soon be extremely hard to provide a sufficient number of good male teachers of French to supply all the classes. I

believe, furthermore, that if a choice were allowed, the work would be done more willingly by the boys and less mechanically by the instructors.

In the classical schools I have succeeded this year in arranging the French studies in such a way that the better pupils, though doing no more work than formerly, will be prepared for the advanced requirements, while the slower scholars will be as well fitted as ever for the elementary examination. The pupils of the Girls' Latin School are now allowed to substitute German for Greek. A very thorough three years' course in German has been laid out for this purpose. About half of the members of the present third class are taking it, and are making good progress. In the Boys' Latin School the members of the first class are permitted to study elementary German in place of advanced Latin. Although the German course is fully as difficult as the Latin, some fifteen boys have chosen it, and most of them are doing serious work. Before long it will doubtless be desirable to make ampler provision for German in the Boys' Latin School and, possibly, to remodel altogether the modern language courses in both of the classical schools. The nature of the changes will depend on the action taken by Harvard and other colleges with regard to admission requirements.

For the last two years I have not succeeded in obtaining all the books that were wanted. It is to be hoped that the School Board will soon be able to supply them. A small amount of money is urgently needed, also, to increase the loan libraries already mentioned. I have always tried to reduce the expenses of my department to the lowest possible figure, and have avoided asking for any books that did not seem absolutely necessary for the proper development of our courses.

Some attempts have recently been made, in the larger schools, to grade pupils of the various classes according to their ability. Of course this can be done only where the class is big enough to form at least two divisions. The most important experiment in this direction has been made this year

in the English High School. It has been extremely helpful to my department and, I think, to others. Without such grading, there seems to be, in a large school, no possibility of doing justice either to the quickest or to the slowest children. It might be well, even, to make some provision for boys and girls who are too old to remain in the grammar school, but too backward to study a foreign language with advantage. I would suggest, also, that pupils be prevented from taking up a second foreign language unless they have attained a tolerable degree of proficiency in the one first chosen. In some schools it is customary to encourage scholars who have failed in Latin or German to take French in its place during the third year. French classes made up in this way seldom accomplish much: they waste the time of teachers and pupils, and tend to bring the study of French into disrepute. It may be well to add here that greater care and strictness in the promotion and graduation of our school children would be of incalculable benefit to the modern language department and probably to all other branches of instruction.

In the Evening High School the progress of French and German study has been even more marked than in the day schools. It is safe to say that an evening class in a foreign language now does, on the average, fully three times as much work as was accomplished by scholars of the same grade five years ago. This improvement is due partly to changes of instructors, but mainly to the introduction of a regular detailed programme. One drawback to the success of my department has generally been the difficulty of obtaining a sufficient variety of suitable books. As many evening scholars take the same course for two or three successive years, it is wise to change the reading-matter from year to year. I am happy to say that during the past term we obtained all the texts that were absolutely needed. At the beginning of the present year a better system of classification came into use, and our evening pupils now have, for the first time, an opportunity to become acquainted with some of the masters of

French and German literature. In the central school our classes are, in the main, large, earnest, and intelligent; in the two branch schools, on the other hand, the modern language classes, though well instructed, are so small that it seems hardly worth while to continue them.

The most important event in the history of our modern language work during these six years has been the introduction of French into our grammar schools. It is to be hoped that German will immediately follow. The early pursuit of these studies will be of immense benefit to our children, not only in their foreign language courses, but also, I am sure, in every branch of their education. Classes have already been formed in several grammar schools, and have made surprisingly rapid progress. It is likely that in a few years these subjects will find their way into all the programmes. Unless the department is properly supervised, there is, I fear, great danger that time will be frittered away by teachers inexperienced in this kind of instruction. Moreover, it is extremely desirable that the grammar and the high school work be brought into the closest possible relation, and that a tolerably consistent method be followed throughout the whole system. For these reasons I recommend that the duties of the Director of Modern Languages be so extended as to include all grades of modern foreign language study in our public schools.

Yours respectfully,

CHARLES H. GRANDGENT,
Director of Modern Languages.

REPORT OF MISS LAURA FISHER, DIRECTOR OF
KINDERGARTENS.

To the Superintendent of Public Schools :

DEAR SIR: In compliance with your request I send herewith a report on the public kindergartens of Boston.

My tenure of office has been so short that I am sure you will excuse me from any detailed report on the status of the work, and will permit me rather to say what is in the main the spirit and also the trend of the same; and what to my mind lies before us as the task and duty of the future. It cannot be too often or too strongly stated that Froebel designed the kindergarten as a *transition*. Its province, according to him, was to lead the child from the home to the school. Its methods are caught from the spontaneous manifestation of childhood, its essence is the ideas and experiences inherent in the nature and relationships of man.

The great danger assailing every kindergarten, or system of kindergartens, arises from the fact that it is conceived either as a mere play-school, or as a sub-primary. With the former conception the fond kindergartener permits each child to follow its own sweet will, deluding herself into the belief that she is thus developing the child's individuality and "keeping the child spontaneous;" in the latter case the ambitious kindergartener looks only to the material appliances of Froebel and holds them as the magic means whereby she can make the teaching of facts of form, number, color, direction, etc., easy and agreeable to the child; she believes in sugar-coating these pills of information, and she calls in the assistance of Froebel in administering her medicine. Both conceptions of the kindergarten are radically false; both engender moral and mental feebleness; for the one

makes the child lawless and the other moulds him into a machine. It is easy to see that while one of these misconceptions arises out of a mistaken worship of play, the other is rooted in a slavish adoration of knowledge.

The kindergartener must deem it her privilege, as well as her duty, to lead the child from the home to the school. She must recognize that she has to guide the child out of the individualism of a separate life into a growing participation and combination with others. The child of three years plays alone and as it will; and the element of caprice which impels it to flit from one thing to another is necessary to establish the foundations of its individuality. But the time comes when that crude, self-centred, erratically spontaneous being must be rounded, and broadened and self-controlled and become subject to law; and then the kindergarten receives into its community the child who has the basis of true individuality, but needs the conditions that will develop it. And so the child meets other children, and in his law-governed intercourse with others is prepared for and learns of the wider circles of human relationships into which he too shall some day enter. It is one of the most difficult tasks of education, nicely to balance the young and sensitive individuality of the child and not to crush it.

Mentally too, the child of three years, flits from one idea to another, from thing to thing without rhyme or reason. To continue to do this is disastrous to self-directing thought and concentrated attention. The kindergarten helps the child to delight in *representative* facts and objects, and gives him typical experiences. These *typical experiences* whether they be through objects, or facts in the life of nature and of man, help to coördinate the separate objects and experiences, to make unity felt under the many. The child who has heretofore looked upon each thing as separate now begins to see it as one of a class or community, and like himself the world of things and people now stand related, each to each and all to all. If, therefore, the kindergartener fails to use every

object and every exercise as a centre from which others radiate and to which others point; if she permits herself to make the object before her the end and aim of the child's analytical study, and the special talk or story the mere means of conveying the knowledge of specific facts, she is not working in the spirit of Froebel, and is not conducting a kindergarten.

This transitional character of the kindergarten places upon it the twofold duty of reaching back into the home and forward into the school. The kindergartener should know what lies behind her work, and should also have an intelligent conception of the work beyond her own. No system of kindergartens is complete unless it throws its influence backward into the homes from which the children come, and forward into the primary schools into which the children pass.

Two things at once become necessary. To exert a right influence upon the homes there should be work with mothers; This must be twofold in its nature: on the one hand there should be individual contact by visiting in the families, on the other hand there should be organized classes, and the kindergartener should deem it her privilege to hold meetings with the mothers of the children under her care, for the purpose of explaining to them the meaning of her work and so enlisting their interest and coöperation. The first of these duties is faithfully and enthusiastically performed by many of the teachers in our kindergartens, and the reports from many show the growing interest of parents in the work of the little children. The achievement of the second is one of the great opportunities open to us in the future development of kindergarten work in Boston.

I have said that the kindergarten must reach forward also; must come into relations with the primary school. It is the duty of the kindergarten to send the children to the school ready to accept the existing conditions. The child should be able easily to enter into the somewhat severer discipline, should have the power to exercise greater self-control, to give prompt attention and ready obedience, both necessary to

school class-work. The child should come equipped with an alert mind, and a will ready to cope with the task set before him; with powers awakened and easily directed, with sympathies healthily quickened. In the primary school there should be room and time for the further pursuit of the advanced work of the kindergarten as planned by Froebel. Froebel indicates, in his chapter called "Die Vermittlungsschule" (connecting class), and in a number of other articles, what he considers the necessary next step after kindergarten.

Some slight attempt to carry on advanced kindergarten work in the primary school has been and is now being made here in Boston and elsewhere. To make the work successful and really connected, an advance upon the ground already covered in the kindergarten must be made. In order to do this properly, the work must be conducted by teachers thoroughly trained in kindergarten as well as primary methods and with a perfectly clear knowledge of the details of the kindergarten in its entire scope. This naturally necessitates, if the work is to become general, supplementary instruction in advanced kindergarten work for the primary teachers already in charge, and thorough kindergarten training for the primary teachers of the future. I have found, in both experiments made here with advanced kindergarten work, that the same difficulty presented itself; namely, some of the children in the primary room had had and some had not had kindergarten training. Without preliminary kindergarten work to build upon advanced work cannot well be done. With classes in which some children have had kindergarten training and others have not, the same ground cannot be covered by all.

That we are slowly moving on toward the connection of kindergarten and primary work I most certainly believe; and with that modification of the course of study which I am sure all who are interested in our schools are ready to grant,

we shall by the assistance of the light Froebel offers us achieve the desired result.

In closing I beg to express my great pleasure in the growing earnestness and insight of the young women in charge of our kindergartens. They are one and all eager to come nearer to Froebel's conception of his system, and are increasingly conscious of the need for improvement in work. I desire also to express my appreciation of and gratitude for the work done by Miss Pingree in the furtherance of the growth and spread of the kindergarten, and my sincere thanks for the hospitality shown to the kindergarten idea by both supervisors and teachers of all grades. With the sympathy and faith thus extended, the kindergarten cannot fail to feel profoundly the seriousness and responsibility of its mission.

Respectfully submitted,

LAURA FISHER,

Director of Kindergartens.

REPORT OF HENRY G. CAREY, INSTRUCTOR IN MUSIC.

To the Superintendent of Public Schools :

DEAR SIR: When your request for a report of the work in music in the High Schools reached me, five weeks ago, I was just taken down with a serious illness; but now, being on the road to recovery, I will use my first strength in responding to your call. I cannot fully control my thoughts as yet, and the report must be imperfect.

My work during the past year, as during the preceding five years, has been very enjoyable. The pupils almost unanimously have responded cheerfully and earnestly to my efforts to have them sing well. In the high schools of course more time can be spent in singing and less on theory than is possible in the lower schools, and this we have done. Besides singing the tunes and exercises correctly, I have striven to have the scholars see and feel the "true inwardness" of the music, showing why this or that passage was written as it is, noting the effect of this modulation, pointing out the peculiar chords and unusual passages, etc., so that hereafter music will be to them more than a mere succession of pleasant sounds; — a language speaking of beautiful things which are hidden from the mere music reader. Tending to the same end, I have followed the custom of occupying the last few minutes of each lesson in having a piano or violin solo played by some pupil or by myself, first analyzing the tune to be played either verbally or on the blackboard, and requiring thoughtful attention by the pupils during its performance, to see if they could hear and feel that of which they had been told. Although the pupils probably all felt that they were being entertained, I have heard from many sources of good

results from these exercises. The contents of the singing books are not arranged like those in the other school books, progressively and to be studied page by page consecutively. I have therefore appointed a secretary in each class whose duty it is to record, on blanks specially prepared, all that is done during the singing lesson and return them to me. These being copied in my lesson book, I have before me the work of the class for the school year, and am able to make plans for the future.

The new edition of the music reader was furnished to some of the schools three years ago; but the Brighton High only received it in October last; while the five hundred pupils of the Roxbury High are still using the old book. From the fact that the new edition has been in use some years, I have asked the School Committee to furnish the Roxbury school with a different book. The song book at the Girls' High and Latin Schools has been used a great many years, many of the best songs having been sung there from sheets years before. I would not ask to have Mr. Eichberg's excellent book taken away, but if we could have another book with music of a more recent date it would put new life into the work there. I have applied to the committee for such a book. It would be of the greatest benefit to the high schools if they could be furnished with a small collection of exercises for vocalization, as there are none in the school readers. Without the printed exercises, practice on that point cannot be successfully had.

The question occasionally arises, "Shall non-singers be required to attend the singing lessons?" It would seem that the answer should be "No," but when we consider that those pupils get an extra hour in which to study, and thus gain an advantage over their musical companions, and also that others who are musical but who are slow or behind in some study, or who want to make up the loss of time mispent, will claim to be non-singers, then the question is not so easily answered. Fortunately the number of those who

have "no ear for music" is very small. It would be well if in every high school the sub-master or some other teacher were competent to give musical instruction in the absence of the special instructor. Four of my schools are very fortunate in that respect and in some of them regular instruction in music has been given during my enforced absence.

The Girls' High and Latin School-house contains the only music room in the city schools. It is a fine room and a great deal of hard work is done there; it deserves a new piano, for the old square which does duty there has been played upon till it is worn out, and should be placed on the retired list.

The study of music has been discontinued in the English High School during this year. Singing in a school like that must necessarily be unsatisfactory. Allow me to give you the composition of the principal choir. It was composed of the boys of the senior and middle classes, in round numbers, three hundred and seventy-five. Of these twenty-three had unchanged voices, divided about equally between soprano and alto. There were sixty-seven so-called tenors; that is, the voices were of tenor quality, but few of them could sing as high as E flat. Then there were eighty-seven middlers — boys who could sing neither high nor low — with a range of but little over an octave. I sometimes called them second tenors, sometimes first basses, according to circumstances, but the name middlers better fitted them. All the rest, say two hundred, were basses, a great many of them with fine, full voices.

Of course effective part singing was out of the question. We did sometimes sing four parts, but only two could be heard; the two other parts could be *seen* by looking at the mouths of the boys on that side of the room. The class had had no book for years as so few of the tunes were available, and I have spent many hours in the music stores searching for sheet music that we could use; but when we found a good unison song, such as "Palm Branches," "Dervishes' Chorus," by Beethoven, etc., or a two-part song like "Lar-

board Watch," transposed to fit the circumstances, the boys sang with enthusiasm, their good, full voices ringing out with fine effect. Music lessons were discontinued in the Boys' Latin School many years ago under Mr. Eichberg.

I hope that you may find this report to answer in some degree what you require, and that it may not be too late for service.

Yours respectfully,

HENRY G. CAREY.

Instructor in Music.

REPORT OF HOSEA E. HOLT, INSTRUCTOR IN MUSIC.

To the Superintendent of Public Schools :

DEAR SIR: In reply to your request for a report, "first, upon the past and present condition of music in the schools under my charge; second, on the aims and methods of the work; third, on the results attained; fourth, on improvements possible; fifth, on the needs of this department of instruction; and generally, upon all topics which seem to invite discussion, and which are open to illustration from my experience in the schools," I beg to submit the following report:

When I first entered upon my duties as special instructor of music in the Boston schools, more than twenty-five years ago, the subject was taught almost entirely by imitation. The special instructor was expected to give the first presentation of all exercises and songs, and to teach songs for public festivals and annual exhibitions. During the first fifteen years of my experience in the Boston schools, the work of initiating the regular teachers into the real teaching of music was exceedingly slow. In fact, I observed little or no progress in this direction until my methods of teaching were changed and made to conform to the methods of teaching other subjects.

This change has been very gradual, but it has been sure and effective up to the present time, and I feel that at present I am making greater progress than at any time during the past fifteen years. Every principle I employ has been carefully worked out and proven with the children, and the presentation of the subject adapted to the comprehension of the class

teachers, until a large majority of them have come to feel as much at home and as self-reliant in teaching music as any other study.

A most remarkable change has been wrought in this direction during the past three years. Music can now be placed on the same footing as other studies, since the methods of teaching it are made to conform to approved methods of teaching other subjects. My discovery of a basis upon which an oral language can be applied in teaching the subject of tune or pitch furnishes, I am confident, the all-important connecting link between the real object — the tone in its relation to others — and its written sign. By the use of this method, the realities of music may be presented to the pupils by the class teachers as readily and successfully as colors or numbers.

My twenty-five years of experience have enabled me to work out a comprehensive system of teaching. Under this system, from the lowest to the highest grades, the pupils use tones, not words, in replying to questions concerning tone-effect. The truths on which this system is based are few and far-reaching. A statement of them will be found later in this report.

“On the aims and methods of the work” I would say that the proper use of the voice and perfect intonation are the prime objects from the very start. But the voice-culture is wholly unconscious to the child, so far as any physical processes are concerned. For, since the voice is nature’s means of giving expression to thought and feeling, it is true that, when the *mind* is made to lead in every act, the voice gives true expression to musical thoughts as naturally as the eye sees or the ear hears. We do not aim to make theoretical musicians of our pupils. The theory of music, and all technical terms, as such, are left out of the study in all lower grades. Our aim is to develop the musical nature of the pupil, cultivate his voice, and give him command of his musical powers and the ability to sing intelligently his part of

any music set before him. As to the results obtained, I would say that the most remarkable, arising from a new basis for teaching music in the schools, are quality of tone, improved intonation, development of the voice, and ability to read music at sight.

“On improvements possible” I would say that from present indications and development there would seem to be no limit to the possibilities on the part of the pupils under more favorable conditions on the part of the *teaching* force. With the instruction of music put upon the departmental plan, and the teachers having charge, instructed just how to teach, so that no time should be lost, we should see a great change in the results obtained.

During the past year much more of my time has been taken for the Normal School. I am now giving at least one lesson every day in this school. Notwithstanding that this has taken some time from my regular work, there has been a steady growth in interest and improvement on the part of the regular teachers, who have accomplished much more than could have been expected of them under the circumstances.

“On the needs of this department of instruction generally,” I would say, as I have said for a number of years, that the *first* and most *imperative* need is an *educational system* of *teaching the subject*; and also an approximately uniform plan, which shall be used throughout the city. It has been my aim constantly to improve the teaching of music in our schools, and my record will bear me out in saying that I have never allowed my pecuniary interests in publications of any kind to influence my action for the best interests of the schools. It has happened twice during my connection with the Boston schools that I have been obliged to act in direct opposition to my own pecuniary interests, in order to serve the best interests of the city. In the last instance, when, on account of the combined opposition of my associate author and my publishers, it became necessary for me either, on the one hand, to abandon my principles and methods of teaching,

and leave the problem upon which I had spent so many years of careful study, or, on the other hand, to jeopardize the hard earnings of my whole life, I decided to stand by my principles and perfect my system of teaching.

Sixth: "And generally upon all topics which seem to invite discussion, and which are open to illustrations from my experience in the schools." Under this head I would say that there are vital questions involving educational principles which lie at the very *foundation* in teaching this subject. These questions must be disposed of before any common ground can be found upon which the conflicting elements in this department of instruction can be united.

An effort was made two or three years ago by the Music Committee to improve the condition of music in the schools. The special instructors were called together and asked to formulate a plan. The instructors failing to agree, nothing came of the effort, so far as I know, except a majority and a minority report. I submit herewith my minority report, which shows my position regarding the matter at that time.

In connection with the musical instruction in the schools, there should be taught each year a number of standard chorals and patriotic songs, which every child in the city should be able to sing from memory. This could be done without interfering at all with the proper teaching of music in the schools. The musical experience of the last annual festival should not be repeated. When I was asked to conduct the music on that occasion, it was against my expressed judgment under the circumstances to attempt anything except some strong majestic choral. When I found myself endeavoring to conduct "Hail, Columbia," with a large band playing a street arrangement, and a great organ playing a different arrangement at the same time, my feelings may be imagined but not expressed. The right kind of grand choral and patriotic music could be made very effective on all such occasions, under proper conditions.

I cannot close this report without saying a word about the

use of musical instruments in teaching music in our schools. We shall never make the teaching of music educational, in the best sense, and what it should be, so long as we teach it by machinery. Instruments may be used, if desired, after the music has been studied and learned, but not before. The gathering of large numbers of children in the assembly hall, while a professional musician plays and sings for them to follow, should be a thing of the past. The teaching should be done in the class-room, and the tendency to individual singing, especially in the lower grades, should be encouraged. I believe that the regular class teachers are as well qualified to teach music, with proper instruction and supervision, as they are to teach any other subject.

If music were put upon the departmental plan, which in my judgment should be done, there would be as few changes necessary to secure the best results as in any other study. With the teaching of music put upon the departmental plan, and those teachers having charge of it in the schools organized in sections for instruction, and a large chorus of teachers organized for advanced work, the present confusion and conflict of methods would disappear and the teaching of music would be lifted out of its present unsatisfactory condition. In the present controversy regarding the teaching of music, educational principles are involved, which are of much greater importance to the cause of music than all the music courses and text-books that ever were written.

I shall hold myself in readiness to demonstrate the following truths, — truths upon which my system of teaching is based:

(1.) That music is of Divine origin.

(2.) That the tones forming the tonal system, upon which the construction of all modern music is based, must be established in the Divine mind in a certain fixed and absolute relation, governed by natural laws in their relation to each other as much as the planets.

(3.) That the tones of our tonal system are established in

the human mind and will adjust themselves in the mind in this fixed and absolute relation when mental activity is awakened upon them in the natural order in which the mind gains a knowledge of all things.

(4.) That each tone forming this tonal system has its function, which is the effect it inherits as a part of the whole tonal system to which it belongs.

(5.) That a single isolated tone deprived of its *function*, or *musical effect*, has no musical significance or meaning whatever.

(6.) That the association of two tones of this tonal system produces in the mind that concept known in music as an interval.

(7.) That these concepts or intervals can be taught and named orally as definite and distinct objects of thought in the lowest grade of our primary schools as readily and successfully by the class teachers as numbers or colors.

(8.) That mental science furnishes proof of these facts and determines the quality of all teaching.

In conclusion, let me say that I beg you to consider this report as coming from a professional *teacher*, not from a professional *musician*. The musician looks at this subject from an entirely different standpoint, and I may say that the most persistent and discouraging opposition I have met has come from professional musicians, who do not seem to understand the educational principles upon which my system of teaching rests.

Yours sincerely,

H. E. HOLT.

Instructor in Music.

*To the Music Committee of the Boston Public Schools, Mr.
SOLOMON SCHINDLER, Chairman:*

GENTLEMEN: When called before your committee some weeks ago and asked what in my opinion should be done to improve the condition of music in our schools, my reply, you

remember, was that it seemed to me that the *first* and *most important* thing to be done was that your committee, or the musical instructors, or some one should formulate a system of teaching, apart from all existing music courses, based upon elementary mental science, or educational principles, which should form a basis for a uniform plan of teaching the subject throughout the city. When it was questioned whether music could be placed upon the same educational basis and taught the same as other branches, I assured your committee that it could be done and had been done. When doubt was expressed about the musical instructors agreeing upon a system of teaching, I was quite confident, you will remember, that they could and would agree upon a uniform plan of teaching. It is with the most sincere regret that I am obliged to say that the doubt expressed by your committee at that time has proved to be well founded, and lest I should be held entirely responsible for the failure of this effort on the part of your committee to place the teaching of music upon the same educational basis as other studies, I alone being in the minority, I am obliged in self-defence to present to your committee a minority report. And in doing this I do not wish to reflect upon the sincerity of any one of my associates in their opinion that to outline a programme and decide upon the text-books to be used was all that was necessary. It was in vain for me to argue that this did not *touch* the *vital point* necessary to the greatest success and the best interests of music in our schools, that aside from all programmes and music books there were vital questions that were fundamental in all teaching which must be discussed and decided before there could be anything like a *scientific* and systematic teaching of the subject in the schools. We were at first requested by your chairman to bring in a *unanimous report*, and when it was first ascertained that such a report must mean much more for the cause of music in our schools than the mere outlining of a programme and the selecting of text-books, I was delegated by my associates "to see your chairman and report progress, and

ask for more time in which to perfect and consider a plan of teaching based upon educational principles." The time asked for was granted by your chairman, and at our next meeting, as we were about to commence our work upon a new basis, it was suddenly decided that a majority should rule, and the idea of a unanimous report, and all further investigation with a view to improving the "mode" or manner of teaching music in the schools was at once abandoned, and the outlining of a programme taken up. When I expressed my confidence to your committee that the musical instructors could and would agree upon a scientific and systematic plan of teaching, it had not occurred to me that if they, as they admit, had no such plan worked out, they would decline to investigate thoroughly such a plan worked out and developed by myself. Having failed to induce my associates to consider in the remotest degree the vital questions of teaching and naming orally the invisible things or realities in music, I cannot feel that I have done my duty to the city in whose service I have been so long employed, and in whose schools I have taken so deep an interest, without giving your committee some idea of the discoveries I have made in teaching this subject, which is the result of a careful study of children and the philosophy of teaching, during my twenty-five years' experience in the Boston schools. Music has been regarded as a special study that could be taught only by a "musician," which meant a player upon some musical instrument, or a composer of music. When I became a candidate for my present position as instructor in music twenty-five years ago, the only objection to my appointment, so far as I know, was that I was "no musician," because I was not a pianist or "a composer." The time was when drawing must be taught by artists, now teachers are required.

There is no subject taught in our schools in which the regular teachers can accomplish so much in so short a time as in teaching music when they know first what not to teach, and second just how to teach and name the few fundamental

things which must be known. A better knowledge and appreciation of elementary mental science, and a more general application of its laws in teaching has wrought great changes in teaching many subjects in the past few years. A basis has been discovered upon which the same mental laws can be most successfully applied in teaching music. The system of teaching that I have worked out is based upon well-known laws of the mind which now govern all true teaching. A knowledge of every object in natural history, for instance, is gained naturally in the following order:

- (1.) A knowledge of the object as a whole.
- (2.) The parts of the whole are studied.
- (3.) The parts in their relation to the whole.
- (4.) The parts in their relation to each other.

If we observe this order in teaching music we shall see such a change in our results as we have never seen in the teaching of any one subject.

Children in our primary schools can be easily educated in all of the musical effects, or intervals, in all keys, so that they will know and sing them by their names as readily as they will tell simple numbers or colors. The value of this knowledge and training cannot be estimated by anyone who has not investigated the subject thoroughly. It has been my privilege for a number of years to be associated with and have charge of the instruction in music in the Normal School. This has given me an opportunity to study normal methods and to formulate and work out a scientific and systematic plan of teaching based upon the same educational principles as all other studies in the school. I have made an honest effort to have this system of teaching recognized by my associates, so that Boston might not only have the benefit of it, but the credit of originating a scientific system of teaching music in public schools. My efforts have failed, but I cannot feel responsible; I have done everything in my power to secure harmonious action, except to abandon my principles in teaching. This I could not do. I shall hold

myself in readiness to demonstrate the truth of any statement herein made, and to prove to your committee the value of a scientific and systematic plan for teaching music should you wish to investigate the matter.

With regard to text-books I would say that I am interested in both music courses now used in the Boston schools. But I am more interested in the progress of public school music, especially in that of the Boston Schools, than I am in any music course.

Yours most sincerely,

H. E. HOLT.

REPORT OF J. MUNROE MASON, INSTRUCTOR
IN MUSIC.

To the Superintendent of Boston Public Schools :

DEAR SIR: In answer to your request, the following report is respectfully submitted. Although the work in the primary schools is left principally in charge of my assistant, I have made occasional visits to them to note their progress, and assure the teachers of my continued interest in this grade of work, which I consider of the utmost importance. I have found in several classes a marked improvement, the result of more regular systematic instruction and practice; and although there are still classes not in a satisfactory condition, I believe the work is more uniformly good than ever before. Our first aim with the little ones is to inculcate a love for singing by the use of simple rote songs of limited compass, and well defined rhythm, strict attention being given to good position, pleasant quality of tone, and distinct articulation. The major scale is taught as a whole, and is sung in various ways; *i.e.*, with numerals, the sol-fa syllables, and with single syllables. Dictation exercises, singing as the numbers are called or pointed on the diagram, are practised daily. Rhythmical exercises in figure notation are freely written on the blackboard, and sung at sight by the class and individually. This practice is continued to some extent through all the classes in addition to their regular work on the staff. The upper classes are expected to sing exercises and songs by note in the keys of C, G, D, A, E, F, B \flat , E \flat , and A \flat in different kinds of measure, including $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$, $\frac{3}{8}$, and $\frac{6}{8}$, with strict attention to time and proper accent.

I have occasionally heard rote songs introduced by the regular teacher which in my opinion are entirely unfit for use by

young children, even when sung in a proper manner; and when performed as these songs usually are (I cannot call it singing) at the full power of the children's voices, and accompanied at times with violent physical exercises, the result is deplorable. If there is good reason for divorcing physical exercises from music, there is a much stronger one for divorcing music from physical exercises. Another custom prevalent in some classes, of singing in a careless manner, with no regard to time or tune, each one seeming to choose his own pitch, while marching, or rather walking, around the room, leads to bad results in singing at other times. There are rote songs in their books intended for marching songs which would not be objectionable, provided they really marched in time under the teacher's direction, and were given a proper pitch in starting.

My regular visits to the grammar schools are made once in two weeks, as has been my plan for many years. The classes of each grade are usually assembled in the hall for about half an hour. This seems to me the best way of utilizing the limited time at my disposal, although there are advantages in visiting each class-room; but as the time given to each would necessarily be very short or the visits infrequent, I have given preference to the other plan. The classes *need* not and *do* not always sing together, but a healthy competition is induced by being brought together and listening to each other. Occasional visits are made to class-rooms of the lower grades, at which times I usually call for individual singing, sometimes going through a whole class, each pupil singing a few measures. This plan I have endeavored to have followed by the regular teacher, but I fear it is not always carried out as fully as I desire.

The results obtained in different classes and in different schools vary greatly in quantity and quality, and are due to different causes. Sometimes failure is due to the regular teacher, but in many cases it can be traced to double promotions or the employment of substitutes. Many things should

be considered before charging the fault entirely to the regular teacher. Where the work is always poor from year to year, and the pupils show a lack of interest and attention during their lessons, it seems fair to attribute the failure to the teacher. Where substitutes are employed for a short time, music is usually ignored, and in some classes substitutes seem to be the rule rather than the exception. I was recently told by one of my teachers that there had been ten substitutes in one room this year. Of course music is a failure in that class, and poor results must follow when they are transferred to the next class. Music without good discipline is impossible, and where teachers are constantly changing, good discipline is out of the question.

There seems to be a lack of uniformity in the plan of giving lessons which should be remedied if possible. I refer to the irregularity or infrequency with which they are given in some schools. I fear some try to crowd into a single lesson what should be distributed through several days, with the result that the pupils are crammed rather than taught, and I am not sure but the departmental plan is responsible in some cases. I believe the best results are obtained by frequent short lessons, given with promptness and a determination to make decided progress at each lesson.

The use of the sol-fa syllables is continued through all the grades in studying exercises and songs, but words are applied to the songs as soon as possible. I question the wisdom of making use of a great number of exercises without words, as by so doing little time is left to accomplish the real object aimed for, *i.e.*, reading music at sight with words, as it must be, if read at all, when singing in a choir or choral society. This is the point where I believe all fail in part singing, and is the thing that needs a great amount of practice. Classes which read quite readily by sol-fa-ing in two, three, or four parts, often fail utterly when applying words, until the parts have been practised separately many times. Exercises should be used sparingly to illustrate difficulties in time and tune,

thus producing harmony which they enjoy, while practising rhythmical exercises, and relieving the monotony usually accompanying such exercises.

In the fifth class the chromatic scale is studied, and it is kept in constant practice through all the upper grades that they may become as familiar with these tones as the lower classes are with the tones of the major scale. Exercises and songs are sung in the nine keys in two parts and in the various kinds of measure. Particular attention is given to the meaning of the various signs of notation; such as the key signature, time signature, clef, bar, tie, slur, hold, etc.; the relative value of notes and rests; and the proper accent of the different kinds of measure. In the fourth class the work is continued in much the same way, except that it is studied more from a harmonic standpoint, each tone of the scale being taken in its relation to others forming a triad. Songs of more difficult nature are also used, involving freer use of chromatics and modulations. The minor scale is also used to some extent. Exercises like the following in "time and tune" are frequently practised:



The third classes are organized in three parts, and their plan of work is much the same as that of the previous class. Considerable time is spent in taking and holding chords on each degree of the scale; and while very little time is spent on theory, the pupils are expected to be familiar with the construction of the triad on each degree of the scale. Exercises like the following are practised in each key, preparatory to the study of their songs:



The work of the two upper classes is continued in the same manner with more attention to exercises and songs in the minor mode and the use of the F clef. Everything relating to notation is kept in constant review.

In several of my mixed schools and in both boys' schools we have a good bass choir which carry their parts independently and intelligently. In other schools the number of changed voices is so small that an independent bass part is impracticable. A new book is much needed for this grade, better adapted to our wants. The book which has been in use for many years contains excellent music, and is well arranged in many respects; but a large part of the secular music is adapted only for girls, or boys' unchanged voices, so it is unavailable in boys' or mixed schools. On the other hand, the larger number of chorals and hymn tunes are arranged for soprano, alto, and bass, in such a way that they are poorly adapted to girls' schools. I think a book should be so compiled that everything between the covers may be used in all the schools, or we should have two books: one for girls and one for boys' and mixed schools, as they do in the high schools. I am confident there has been a great improvement in the ability to read music at sight within a few years; and in this opinion I am sustained by many of my teachers who have voluntarily expressed that opinion, referring to the ease with which their pupils learn certain songs and exercises which were formerly considered extremely difficult, if not impossible. There is still plenty of room for improvement, however, and in some classes there is much hard work to be done to bring the results up to the standard.

There are many complaints from teachers that the pupils cannot read their notes, and I am aware the complaint is well founded. The question is, how can we remedy it? I think

the best if not the only way is to have the pupils write music from dictation. To do this they should be supplied with music slates or paper with a staff indelibly fixed. The making of a staff by the pupil takes unnecessary time, and when notes are erased the staff is erased with them. I several years ago suggested the plan of having small tablets with staves stamped upon them; and still think the idea a good one. I believe five minutes spent in writing would accomplish more than half an hour spent in reading what has been written or printed. I also believe thoroughly in frequent short written examinations for the benefit of the teacher. This, of course, is not a test of ability to sing, but it is a test of ability to read the signs from which they are expected to sing, without which the ability to sing is of little value. My experience is that where *music* reading is a failure, *note* reading is a failure, the notes being read with such painful slowness, if at all, that no sense is made of them. I wish a blackboard with at least one staff painted upon it might be kept in every classroom sacred to music, and never to be used for anything else. Notwithstanding the walls of every room are covered with blackboards, it is often impossible to find a place to write a few notes without erasing something the teacher wishes to preserve; and where there is a music board, it is usually in the same condition, covered with figures or words.

In conclusion, I wish to acknowledge my indebtedness to the masters and teachers, and thank them for their hearty coöperation, without which my work would be of little avail. I believe all, without exception, are interested and anxious to do their best, and where there is a failure, it is from lack of ability, real or fancied, or from some causes for which they are not responsible, rather than from lack of interest or a disposition to neglect the work. I wish it were possible for the masters to be present in the hall more generally during my lessons, as their presence serves to stimulate pupils and teachers; but I am aware that they have many duties calling them in another direction. One other thing I wish to men-

tion, though I have hesitated to do so, in regard to the attention of the teachers during my lessons. I have sometimes observed them writing reports or correcting examples or engaged in conversation, probably without thinking of the influence it would have on the pupils. These things are closely observed by children, and when they see that the teacher appears to take no interest in the lesson, they are very likely to consider it of little importance. Even if she "knows it all" it is better to appear interested for the benefit of her class.

Yours very truly,

J. M. MASON,
Instructor in Music.

REPORT OF JAMES M. McLAUGHLIN,
INSTRUCTOR IN MUSIC.

To the Superintendent of Public Schools:

DEAR SIR: In compliance with your request for a report upon music in the schools in my charge, I beg leave to say that when the small amount of time allowed for the study is considered, and the absence of a modern series of music readers, charts, ruled blackboards, and pitch-pipes is also taken into account, it is safe to assert that most of our teachers achieve remarkably good results. It is quite generally recognized, however, that these results are not what they might be, for pupils, teachers, and all have labored under the most discouraging conditions. For the past two years nearly every school in my district has suffered greatly from an insufficient number of music readers. At present there are three of my classes entirely without music books, ancient or modern. I respectfully suggest the following:

1. A music reader for every pupil.

2. At least fifteen minutes every day should be devoted to music. At present very little, if anything, is done towards encouraging individual singing, mainly for lack of time.

3. The musical requirements of graduates from the normal schools and of all candidates for teachers' certificates should be advanced to a higher standard.

I furthermore believe that there should be a responsible head in the Music Department, who should —

1. Direct, in a general way at least, the study of music throughout the city;

2. Outline a course of study to be followed independently of any music reader. This is possible by establishing a Code

of Requirements for each grade, as in the English schools, to the effect, that a certain amount of instruction shall be given by the end of each school year;

3. Order tests to be held from time to time;

4. Preside at meetings of all the instructors in music, said meetings to be held regularly;

5. Require reports from the different instructors whenever desirable; and

6. Take such other steps as are necessary to place the study of music throughout the city upon a systematic basis.

Hoping that I have succeeded in furnishing you the information requested, I remain

Respectfully yours,

JAMES M. McLAUGHLIN,
Instructor in Music.

REPORT OF LEONARD B. MARSHALL, IN-
STRUCTOR IN MUSIC.

To the Superintendent of Public Schools :

DEAR SIR: In reply to your letter, recently received, wherein you request a report upon the past and present condition of music in the schools under my charge; on the aim and methods of the work; on the results attained; on improvements possible; on the needs of this department of instruction; and, generally, upon all topics which seem to invite discussion and which are open to illustration from my experience in the schools, I will say, that the schools in which it has been my good fortune to teach for the past few years have always been favored with teachers of ability, men who have been well equipped for their work, thoroughly devoted to the interests of the schools in this special department of music, and who have labored hard and earnestly to accomplish all that was possible under the conditions which have prevailed.

In regard to my own work I can conscientiously and unreservedly say that I have spared no time in school hours, and outside as well, and no pains to make it as effective and thorough and at the same time as enjoyable to the pupils as it has been within my power to do. At the close of each day's labor I have prepared lesson-papers, on slips printed for this express purpose, for all the grades I have visited during the day. These have been mailed regularly to the masters of the schools the same evening, so that the classes might enter at once upon the study of the work assigned for the next two weeks. On these lesson-papers I have placed certain things selected from the music reader, have given

definite instructions to the teachers, have indicated the kind of mental drill which would be helpful in developing the work of the book, have written exercises in both pitch and time for practice, and have combined these things in exercises for sight-singing from the blackboard. This has taken a great deal of time and has frequently taxed my energies more than was desirable; but I have faithfully continued this method in my great desire to fulfil to the utmost my measure of responsibility to the pupils under my charge.

We have had good singing. The element of interest and pleasure in the work has not been wanting. In many schools this characteristic has been quite marked. We have taken up the various divisions of the subject through drill and blackboard illustration. We have endeavored to cultivate a good tone quality. It has been our aim to build up intelligence in music, and facility in the reading of the same as far as our limited conditions would permit, relying to a great extent upon the outside work already alluded to. The music for our graduations has been carefully practised and finely rendered. Expression and good vocalization have received due attention.

The end and aim of all our work is to cause the child to become musical; to develop whatever of musical talent he may possess. It is music — real music — that we seek. We desire to lay the foundations broadly on an educational basis for a clear conception of musical tones and their relations to each other; in other words, to establish tone perception. It is our desire also to so familiarize the child with the different kinds of rhythm, that he shall feel the pulse and the movement in all the music he may have to study and sing. We endeavor to supply the child with the instruments whereby, by the exercise of his trained powers, he may become, at first feebly, but later on in a higher sense constructive; that is to say, by the use of these implements he may be able to conquer musical problems, from the lesser to the greater, himself. There is nothing vague about this. Results show

that children may become independent and thoughtful in their work.

In my experience in teaching I have come to classify all we do for the child in music under two heads, incidental work and fundamental work. The first consists of teaching beautiful songs by imitation. The second refers to the building up of intelligence through proper teaching and the use of carefully graded music material. It may be difficult to draw the line between these two departments of the work, or to say just how much the one or the other has, or should have, to do with the musical education of the child. Opinions certainly differ on this point. My own view of the matter is that rote singing, properly conducted, is a valuable adjunct in creating a love for music. It is one of the greatest means for furnishing pleasure and recreation. It has a potent influence in shaping the general atmosphere of the school-room, causing a love for the school and all that transpires there to spring up within the breast of each child who comes under its pleasing spell. Like the interesting story told to the child, so the song given in the simple way will attract his attention and please his fancy. It will linger long in his memory, and be recalled with pleasure and delight. The more beautiful these songs, the more appropriate to the youthful mind the subjects chosen for the musical setting, the greater value will they be to the child. The sentiment of these songs should breathe of all that is beautiful and attractive in nature; all that is grand and noble in life. Thus through the power of musical expression these sentiments may make their impress upon the youthful minds and hearts as well; may have an abiding influence in the formation of character, and be a potential factor in influencing the motives and actions of life. I may say with equal truthfulness that the better these songs are taught as regards tone quality, expression, and general style of rendering, the more valuable and helpful will they be. Fortunate is the teacher who has the knowledge, power, and skill to do ideal work along these

lines, and equally fortunate are the pupils who enjoy the benefits of such superior talents.

While I express myself thus heartily upon this side of the work I desire to refer to one or two dangers which are liable to occur. If children are allowed to sing too much and too long in this imitative way; if fun and enjoyment without proper mental activity are indulged in to excess; if absorption in a passive state, pure diversion, is carried too far, there are strong grounds for believing that wrong habits will become fixed and that work which is legitimate and essential will not be undertaken with the spirit and activity which its successful performance demands. This has come under my observation in times past and I allude to it in passing. Rather should the two departments of work be harmoniously blended, the one acting as an aid and a stimulus to the other. It is true that the teaching of the principles of music itself is in a way recreative if given in a proper spirit. When the little exercises and songs are attacked and conquered intelligently through sight reading, what a glory there is to be able to do, as well as to hear, the songs! This can be abundantly verified in actual experience. It has been found that as the child grows in intelligence he gradually prefers to make a study of the songs rather than to take them from the lips of the teacher. There is another reason why the time should be divided in the primary grades between rote-singing and intelligent work. To read music from the staff quickly requires so much practice it is highly desirable that the children in these lower grades do a great amount of simple reading of music in the different keys so that the more difficult work of the higher grades may come along naturally and easily. In this way a partial dropping of the pleasurable in the primary grades is more than made up by added pleasure and ease of performance in the grammar grades.

Intelligent work is what I consider as fundamental, the thing to be depended upon, the one great reliance for thor-

ough work in schools. Our aim should be to have our course of instruction so perfect, our helps in carrying out this instruction so graded and so complete that the entire work may be thoroughly substantial, and that upon graduating from school the pupil may be possessed of a fund of musical knowledge which will be his to enjoy as he enters upon the duties of life. All this leads up to a formation of taste.* It furnishes an ideal, a standard, for life. He is equipped both for the intelligent appreciation of the efforts of others and for the hearty participation in the enjoyment of music with others as opportunity may be afforded. Each year of musical instruction along proper lines should show added power on the part of the pupil in sight-singing, in an intelligent conception of rhythm, in the development of musical taste, and in the capacity to enjoy and appreciate the best things of music. The earnest and intelligent instructor expects results at every stage of the child's education; not merely diversion, not merely recreation, not merely a tickling of the child's emotions for the time being. While the latter is a valuable auxiliary to the work as a whole, the former demands and must receive our most devoted attention.

I desire to refer briefly to some of the things which from my past experience stand out as all-important to a successful prosecution of the work in music. In the first place I should do great injustice to my own feelings did I not pay hearty tribute to the faithful and earnest teachers in the schools, our co-workers, who by their cheerful coöperation are of the greatest assistance to us in our work. Now, the thing of paramount importance at the present time is to so formulate our methods of instruction and to have so provided for our use the most progressive and thorough music material, that these teachers in conjunction with us, as specialists, may have a clear and definite understanding as to how to conduct their music lessons and obtain the best possible results in the exceedingly short time which is allowed for this subject. When we reflect upon the fact that they are expected to intelligently

present a great variety of subjects it is very important that each one be simplified and made as definite as human skill can devise. By clinging to the essentials and dropping the non-essentials we shall find our surest way to the realization of that which we desire to accomplish.

Among the things which I consider as essential are the cultivation of tone-perception; the development of a feeling for the various effects pertaining to time or rhythm; the association of these things with the visible signs which are used to represent them; the application of these mental conceptions associated with the musical signs to progressively written music. This, if continued in a systematic manner, covering a period of years such as are included in those of the usual school attendance, will cause a musical growth, producing intelligence, independence, ability to perform at sight, and power to interpret and give expression to music. I cannot too strongly emphasize the importance of graded and comprehensive music material for use in our work. If things become fixed in the mind in an orderly manner the child will be enabled to recall them with ease. To this end we should have recourse to the best pedagogy in musical setting. "Provision should be made for each step of the learner's progress, and the bearing of each step upon every subsequent step, conforming in the whole extent, scope, and progress of the work to those subtle and eternal laws of the mind, in accordance with which all true teaching and all true learning must proceed." By the use of such music in such a way the child is unconsciously gaining in musical strength and knowledge and the teacher at length, as well as the pupil, is constantly surprised by what he is able to perform. I would also speak strongly of the desirability of becoming able to read music at sight with facility. It is a means to an end. To read literature one must master the language; to solve arithmetical problems one must gain the power to do such work by a close study of the fundamental principles involved in the subject; so in music the same thing obtains. This opens the field to a

large range of musical literature and enables a class to study and sing incomparably more music of a high order, especially in the upper grammar classes and the high schools, than would otherwise be possible. It gives courage to one and all, and impels each pupil to do his best, being conscious of possessing the power to read and think music.

Under the head of possible improvements I might allude once again to the invaluable aid of carefully prepared music-material which supplies a great variety of exercises as well as songs; with the parts nicely arranged, with melodic writing for all the voices, so that the alto and bass singers may have a part as pleasing to think and sing, and conforming to the best range of their voices as the soprano singers, or as nearly so as possible. An intermingling of melodic and harmonic effects is far more educational and cultivating than where a well-defined rhythmical melody is given to the soprano part at the sacrifice of much which is attractive and pleasing to the other singers. Such an arrangement as I have alluded to is far more conducive to good vocalization, and the mental impressions received are infinitely more valuable. Great improvements have been made along this line in educational works in recent years and untold benefits have arisen in consequence.

It does not take a great effort to place upon the board a number of exercises in arithmetic, or language, or history, or geography. But a single exercise in music, if of any considerable length, consumes both time and energy. Furthermore, while the class might master one such exercise from the board it could work out several from a book. Hence the greater need in this branch of having a sufficient supply of material at hand with which to do the work.

I think it may be an improvement to have more individual singing than we have been accustomed to; also to sing very much more by vowels and common syllables than has hitherto been the custom.

Perhaps an exchange of work by a teacher who may feel not quite as well fitted for music-teaching as for other studies,

with a teacher who possesses this qualification in a more marked degree may result in greater good. This has been done to a limited extent. I believe, however, that if all details can be perfectly adjusted the great body of the teachers will not only do efficient work in music, but will take even greater delight in conducting this study than ever before. It is certainly a most delightful branch to pursue when all the conditions are perfect and satisfactory.

Another improvement which I would suggest and which I deem feasible is the still greater coördination of music with other studies: with reading, with language, with oratory, with the power of expression in general. Certainly in teaching the proper use of the voice and in the production of tone-quality too much cannot possibly be done. It should receive the most careful and constant attention.

In conclusion I would recommend that a complete course in music be prepared for each grade, with full directions as to its use by the teachers, covering the topics to be presented, the drill-work necessary to establish each point treated, and the music-material to be employed in the development of each part of the subject. This in each grade should be so elastic that it not only will cover certain things to be thoroughly mastered in every class of a corresponding grade, but will also afford additional work to be performed as the circumstances and ability of each class may permit. This course may even go to the extent of enumerating these things by terms instead of the entire year.

As supplementary reading is considered a valuable help to the regular course in reading, so a reasonable supply of supplementary music would be as desirable in this closely related branch of instruction. There has recently been introduced into a few of my schools a series of books and charts which combine the important points to which I have previously alluded. I have noticed since their introduction a marked gain in the quality of the work we are doing; in the constantly increasing knowledge of the pupils; in the appreciation on the part

of the teachers of the systematic and educational nature of the work; in the increasing pleasure of the pupils which they have even been pleased to convey to me; and in the broad outlook for the future of greater attainment and efficiency on the part of all concerned. I take fresh courage when I contemplate that in the very nature of the mental growth and the consequent power to do, which is the inevitable and logical outcome of this more recent plan of work, the pupils will go on with an ever-increasing acceleration, and with knowledge and joy combined will reap the rich fruits of their toil and labor.

This makes me earnestly wish for as speedy an introduction of this material into all my schools as will be consistent with the means which the committee have for supplying it. I certainly feel that this will be one of the most important improvements which can be made in the near future.

With the hope that I have covered the ground contained in your letter I am,

Very truly yours,

LEONARD B. MARSHALL,

Instructor in Music.

REPORT OF MISS AMABEL G. E. HOPE,
PRINCIPAL OF THE COOKING SCHOOLS.

To the Superintendent of Public Schools :

DEAR SIR: It is now ten years since the study of cookery was introduced into the public schools of Boston. Boston School Kitchen No. 1, in the Starr King School-house, was, with permission of the School Board, fitted up by Mrs. Mary Hemenway, in the summer of 1885, for vacation school purposes. This was the first *public school* kitchen in the United States. On Oct. 27, 1885, in School Committee, it was voted to permit girls of the Bowdoin, Hancock, and Wells Schools, to attend the cooking school in North Bennet street, and girls of the Winthrop, Franklin, Everett, Hyde, and Horace Mann (a school for deafmutes) to attend Boston School Kitchen No. 1, *provided* that the parents or guardians of the pupils so request in writing. The pupils were to attend on probation and under the direction of the Manual Training Committee. The rules and regulations governing the school kitchen may be found in School Document No. 15, of 1885.

Boston School Kitchen No. 1 was supported for three years by Mrs. Hemenway, and was taught the first year by Miss Amy Barnes and myself; afterwards I took sole charge, and for three years it was personally supervised by Miss Amy Morris Homans; and if it had not been for her constant care and watchfulness the school kitchens would not be in the progressive state in which they now are.

In January, 1886, School Kitchen No. 2 was established (in South Boston), and thereafter, in successive years, kitchens were established to the number of fourteen. There is at the present time great need of a kitchen in the Prince District. The girls from that school receive no instruction

this year, there being no kitchen within their reach. There are now ten teachers, three assistants, and a principal or director. The course of study in all these school kitchens is uniform and consists of thirty-six lessons, an increase of sixteen over that of former years. A teachers' meeting is held once a month and the plan of work for the following month is discussed. The girls work in sets of six to eight, an improvement over the method of the first year; then each girl cooked a separate dish, and the expense for food materials alone for that year was over six hundred dollars. Since that time until the present, the amount expended has been eighty dollars a year. For the last two years in some of the districts the classes have increased to double the original number of pupils, and it is hoped that the amount allowed for the food materials will also be increased. It is the opinion of the teachers, and I would most earnestly recommend, that the course of study be made to cover two years instead of one as now, thereby giving more time to the chemistry and physiology of the subject.

I would suggest that cooking be taught in the second and third classes, instead of the second class as now. By this means the girls of the third grade, who often leave school for various reasons before entering the second class, would have the advantage of an elementary course, and those pupils who remain would have the advantage of an advanced course, showing the relation of different foods to one another, and of chemistry, physiology, and hygiene to cooking. If the two years' course can be carried out, four more kitchens and two more teachers would be required. To make the lessons thoroughly interesting, practical, and educative, a teacher must be able to teach, besides the putting together of food materials, to make wholesome, nourishing, and tempting dishes, chemistry, physiology, hygiene, botany, zoölogy, geography, arithmetic, grammar, and spelling. The teachers have all the marketing to do for the lessons, and as most of the classes are double the size that they were nine years ago.

and only the same amount of money is allowed for food materials, this is not at all an easy thing to do. It is hoped, therefore, that the amount will be increased to ten dollars per month next year. The girls are much interested in the work, and try most of the things at home, and then report as to their success; and the parents are constantly expressing their appreciation of the work. It is also hoped that the salaries of the teachers will be made the same as those which teachers of wood-work receive, as the cooking teachers take one-half of a class, and the teachers of wood-work the other half. Until this is done we shall continue letting our best graduates from the normal school of cookery go to other cities where they receive higher salaries, instead of keeping them in our own schools. Boston pays lower salaries for cooking teachers than any other city, although it was the first to introduce the work.

Very respectfully,

AMABEL G. E. HOPE,
Principal of Cooking Schools.

REPORT OF FRANK M. LEAVITT, PRINCIPAL OF
THE MANUAL TRAINING SCHOOLS.

To the Superintendent of Public Schools :

DEAR SIR: There are, at present, for the use of the grammar schools, fifteen manual training rooms; that is, fifteen rooms equipped for wood-working. Considering an average class to be twenty-five, and that the supply of pupils is limited to the three upper grades, these rooms are capable of accommodating three thousand six hundred and thirty-five boys per week. There are this year two thousand five hundred and twenty-two boys thus accommodated, as follows: Class I., three hundred and ninety-seven; Class II., one thousand nine hundred and twenty-three; Class III., two hundred and two. These boys are receiving instruction in wood-working under twelve teachers, eleven special and one regular. Each special teacher has weekly an average of two hundred and twenty-five pupils in his charge. Under what might be called ideally perfect conditions, this number could be increased only by twenty-five. It will thus be seen that the present teaching force is being fully utilized. The regular teacher referred to is Miss Rich, of the Dwight School, who gives instruction to her own class of fifty pupils. In addition to the boys' classes there is a class of thirty girls from the Bowditch School. This class receives its instruction at the Eliot School.

The entire body of teachers has this year been unusually interested to keep the work up to as high a standard as possible, and notwithstanding the many obstacles in the way, frequent teachers' meetings have been held which have proved interesting, and it is to be hoped valuable to all. The entire corps is harmonious and enthusiastic, and earnestly desires that the work of the classes may be in every way the best.

Without in any way complaining, or seeking any impossible change of conditions, attention is called to some of the difficulties under which these teachers work. The classes are in many cases very full, and each teacher meets a large number of boys per week. These boys come from distant schools, and the loss of time resulting from holidays and other interruptions can never be made up. Thus two or three weeks sometimes intervene between two successive lessons. Another serious drawback is that the same set of tools is frequently used by ten different boys per week. Notwithstanding these difficulties, I believe the work to be highly creditable. The aims, methods, and results (expected or attained) have been the subject of so much discussion, and are on the whole so generally understood, that no detailed description is here needed. Two aims, however, are in considerable danger of being lost sight of.

The first is, that the manual training work in the grammar school is given for general not special training. The result of general training is seen in the development of the pupil, development in thoughtfulness, carefulness, reasonableness, and earnestness. The result of special training is seen in the work produced. That the larger aim is frequently forgotten or misunderstood seems to be indicated by the fact that the criticisms of the work of the manual training schools are almost always criticisms of material results.

The other aim which is in danger of being overlooked is quite at the other end of the problem. It is, that we have a work to do in educating the public quite as much as in educating the pupils. One very effective way of interesting and instructing the parents of the pupils is now prohibited. I refer to the distribution of the finished work. Under the present arrangement the work is taken home at the end of the school year. The later models are carefully examined and praised, and the earlier ones overlooked or unfairly criticised. In an hour or two the interest is over, and, from the standpoint of its value to the school, it may as well be, for the

course is over, and it can have no influence on the boys' work. If the work were taken home one piece at a time and shortly after it is finished, each model would make as much impression as all the models do now. Of course I know the objections that would be urged against this method of distributing work, but what are the facts? We want such work left at the school as shall at all times show, first, the present standing of the class; second, the general degree of excellence of the finished work; third, the progression of the entire course; fourth, a possible comparison of classes or even methods. We want also a sufficient quantity of finished work on hand to enable us to make any exhibition which may be called for, but we do not need twenty-five thousand pieces to show any or all of these things. The gradual distribution of the finished work should be allowed, subject to a plan which shall adequately provide for its inspection and shall secure a representation capable of showing the acquirements of the class as above outlined.

The general need of this department to secure its future welfare is the equipment of more manual training centres which will decrease the extent of the districts, and the greatest improvement which is within our reach is the further introduction of the work into the first or third classes, or both. In a word, what we most need and can most easily accomplish is extension. This has been the thought from the first equipping of the present manual training rooms. In the report of the School Committee for 1892 we find the following: "But while the first thought has been to ensure a year's course of wood-working throughout the city for boys of the second classes, the work has not been confined to these. It has been the intention, as explained in the School Document No. 15 of 1891, to have finally a course covering at least three years." In its last annual report the Committee on Manual Training favors extension to these grades.

The present policy of the committee permits this extension of manual training in the same spirit as that which dominates

the movement to enrich the grammar school course. Any principal of a grammar school, finding the conditions under which his school is working favorable to the introduction of manual training into his first or third classes, or both, is invited to make that extension without waiting until every other grammar school enjoys equally favorable conditions. Under the word "conditions" are included: (*a*) The attitude of the grammar school principal toward the work. (*b*) The availability of a manual training centre. (*c*) The availability of manual training teachers. This method of extension should be followed as rapidly as is consistent with these three conditions, and the facilities should be provided by the committee as rapidly as is consistent with the demand and the expense.

We could, with the present equipment, employ to advantage two or three more teachers, as may be seen by the statement made at the beginning of the report regarding the capacity of the manual training rooms and the number of pupils receiving instruction. There are also some districts where manual training centres are particularly needed. I should be glad to be instructed to report in further detail, with the assurance that something definite will be the result.

In conclusion, I wish to mention that throughout the past year the Committee on Supplies has been extremely generous and helpful. The demands made upon this committee by the manual training schools were as modest and as carefully considered as possible, and the committee showed its appreciation by filling the orders promptly and uncomplainingly.

Another condition which has contributed to the success of the work should be mentioned. The manual training teachers have enjoyed this year, as before, the hearty support, coöperation, and confidence of most of the principals of the grammar schools. I believe both the teachers and the work need and deserve this sympathy, and where it has been given, it is sincerely appreciated.

MECHANICAL DRAWING, CLASS II.

In the annual report of the School Committee of 1892 is the following: "The necessity of some such instruction is apparent in many classes, as the boys are compelled, when they come to the manual training shops, to use the shop time, which should be otherwise spent, in learning how to make the drawings. It is evident that it is poor economy to use this time in this way. The boys should practically know more of mechanical drawing than many of them do before they come to the shops." In accordance with the above a course of mechanical drawing was adopted for the second classes, and was introduced at once into most of the schools. During the entire year of 1893 and 1894, the course was carried out in all the schools, but on the adoption of the amplified course in 1894 it was found that no provision had been made for the mechanical drawing, which was consequently crowded out. It was afterward decided to partially provide for mechanical drawing by allowing its substitution for the work of the first twelve weeks as laid out in the amplified course.

This year the work has accordingly been done under these conditions, and at the end of the twelve weeks it was fair to ask what the results of this expenditure of time had been. With that question in mind, but keeping also before me the impossibility of accurately measuring any educational results, I have personally examined twenty-six classes in various parts of the city. I think I can safely say that considering the very short time (eighteen hours) a great deal has been accomplished, and that, measured by its assistance to the manual training work, the results have been more satisfactory than ever before. Last year some teachers felt that it made no difference when the instruction was given so long as the models were drawn before the end of the year; but this year most of the teachers have seen the necessity of getting to work at once and of using all the time allowed during the

first twelve weeks. The result has been that the work came at the beginning of the year, and the lessons were continuous and connected. In the twelve weeks some children gained a working knowledge of the principles, but there the course stopped. It seems utterly impossible to teach the principles and develop any degree of accuracy in the use of instruments in eighteen hours.

Nevertheless, while the work was, on the whole, so satisfactory, it was in one respect most imperfect. The time had been sufficient to allow the teacher to touch on every principle, but there had been no opportunity to make any lasting impression. Even in the best classes where I could see a trace of the most careful instruction on every point only a few pupils could be said to be familiar with the subject. Every nail had been driven, but few had been clinched.

Trying to forget my natural interest in mechanical drawing I am convinced by the testimony of the teachers themselves of its great value as an educational factor, and if more time can not be given to it in the second class, I am of the opinion that it ought to receive its share of the drawing time in the third and first classes. I sincerely hope that mechanical drawing may not be forced out of the schools without some effort being first made to ascertain its real value.

Respectfully submitted,

FRANK M. LEAVITT,

Principal of Manual Training Schools.

REPORT OF CHARLES W. PARMENTER, HEAD
MASTER OF THE MECHANIC ARTS HIGH
SCHOOL.

To the Superintendent of Public Schools :

DEAR SIR: In response to your request I have the honor to submit the following report of the condition and prospects of the Mechanic Arts High School. In any consideration of this school, it is important that its distinctive character and purposes should be borne clearly in mind. It is designed to be an institution of high school grade in which, in addition to many of the usual subjects of study in high schools, the elements of the mechanic arts shall be taught, not primarily for the purpose of preparing boys for particular trades, but with a view to securing the highest educational results which a practical and systematic study of mechanical processes can yield.

The school was opened, Sept. 6, 1893, in an unfinished building, and the work at first was necessarily confined to the academic subjects and freehand drawing. It was not until March 8, 1894, that the first carpenter shop was ready for use; but since that time the school has been in successful operation in both the academic and the mechanical departments. It was fortunate in securing at the outset an excellent corps of teachers, most of them men of ripe experience, and all faithful, efficient, and devoted to their work.

The building itself, in its main features, has proved admirably adapted to the purposes for which it was designed, but the school has been seriously crippled, and its complete and systematic development rendered impossible, by the fact that the original plan for the building was not fully executed. The wing designed to contain the principal's office, the

library, the reception-room, and the chemical and physical laboratories has not been erected; and if work upon it could be begun immediately, the laboratories could not be completed in time to be of service to the first graduating class. Moreover, all of the rooms in the present structure will soon be needed for the purposes for which they were originally intended, and none of them can be devoted, even temporarily, to other uses without sacrificing important interests of the school. It is wise economy to provide at the outset for all of the departments in such a way that a large increase in membership will not necessitate troublesome and expensive changes. Consequently as many rooms are now needed for shops and laboratories as will be required for the largest school that the building can accommodate.

Since the beginning of the current school year the equipment of the mechanical departments, with the exception of the machine shop, has been practically completed. The introduction of the machinery has interfered but slightly with the regular exercises of the classes, and there has been no serious loss of time, caused by lack of proper facilities for work, since April 9, 1894, when the second carpenter shop was opened. The machine shop will not be needed before the beginning of the next school year, but the plans for its equipment are so fully matured that there is no doubt that it will be ready for the classes as soon as they are fitted to begin machine shop practice.

The manual training high school, as a factor in systems of American public education, is of such recent origin that each new enterprise must be, in a measure, experimental, and its development necessarily slow. There are no models that can be safely copied, and a careful study of the details of equipment during the progress of the work is sure to demonstrate the need of numerous changes that inevitably cause delay. The Mechanic Arts High School has proved no exception, but it is encouraging to note that competent judges pronounce the equipment of its shops and drawing rooms equal

to the best that has thus far been provided for any similar institution in the country.

The wood-working department consists of two adjoining rooms, on the second floor, the first of which is devoted exclusively to exercises with hand tools, and the other to wood-turning and pattern-making. Each room is furnished with benches for classes of thirty-six pupils. A drawer containing all necessary cutting tools — planes, chisels, bits, etc. — is assigned to each pupil for his exclusive use. In the wood-turning room each pupil has also a drawer containing a set of turning tools. Pupils are taught to sharpen tools and keep them in order, and are held strictly responsible for their condition at all times. The measuring and miscellaneous tools, at each bench, are used in common by members of different classes. One side of the bench in the pattern-making shop is constructed to receive a speed lathe, while the other side is adapted to all the processes of pattern-making that require the use of hand tools. In one corner of each of the wood-working rooms is an amphitheatre in which the entire class can be seated so that each member can see plainly the work done by the instructor at the demonstration bench. The space behind the amphitheatre has been utilized to provide a convenient place for sinks and mirrors.

The forge shop contains forges, anvils, vises, tool-boxes, and all needed appliances for the instruction of classes of twenty-four pupils. It is separated from the main building so that the noise incident to the work can cause no disturbance in the class-rooms, but it may be entered from the basement without passing out of doors. Fans of ample size produce blast for the forges and carry away the foul air and products of combustion. Each of the two rooms devoted to drawing is furnished with tables for thirty-six pupils. Each table has a locker for six drawing boards, a drawer which contains the instruments used in common, and six drawers one of which is assigned to each pupil for his notebook and personal drawing materials. Drawing occupies

somewhat less than one-fifth of the school time and includes both freehand and mechanical practice, but the latter receives far more attention than the former.

No instruction in science has thus far been given, for the building contains no rooms designed for scientific laboratories, and no scientific apparatus has been provided. Moreover, there is no room that can be made available, even temporarily, for a chemical laboratory. To meet the emergency, it seems best to confine the chipping, filing, and iron-fitting to the machine shop for the present, and convert the room designed for that work into a temporary physical laboratory. The laboratory tables and cases for physical apparatus, that have provided for this room, have been constructed in such a way that they can be readily removed to the permanent physical laboratory as soon as it is completed. The sum appropriated by the School Committee for physical apparatus will provide for the most pressing needs of the department so that successful work in physics can be begun next September.

It was clearly impracticable to formulate a complete course of study at the outset, but the course adopted tentatively by the Committee on Manual Training, with slight modifications and some changes in time allotments, is likely to become permanent. In the academic work special emphasis will be placed upon English and mathematical branches. The subjects of study will be elementary algebra, plane and solid geometry, advanced algebra, or the elements of trigonometry, physics, history, civics, French, and English. The instruction in the shops will include carpentry, wood-turning, pattern-making, forging, chipping, filing, iron-fitting, and the elements of machine shop practice.

The course in each of the mechanical departments consists of a carefully graded series of exercises involving every fundamental principle or process. Numerous supplementary exercises, adapted to the different stages of the regular course, are provided for those who outstrip their companions in the class work. These supplementary projects arouse special in-

terest because they are generally useful articles likely to be prized by the boys. The models recently made by many boys will bear close inspection and are not unworthy to be compared with the products of expert workmen. An important factor in the scheme of instruction in the mechanical departments is the final formal inspection of each model by the class. The pupils are seated in the amphitheatre, and each places on the shelf before him his model and all needed measuring and testing tools. The instructor then calls attention to the excellences and defects of a typical model, indicates the angles and surfaces to be tested and the dimensions to be verified, points out mistakes likely to be made, explains and illustrates at the bench methods by which common errors can be avoided, and determines the number of credits to be given for each element of the model that is perfect within assigned limits. Each pupil then carefully examines and tests his own model and returns it, with a systematic record of his investigation, to the instructor, who verifies the record at his leisure. This method serves to develop the power to form correct judgments concerning the essential elements of perfect work, exposes shams, stimulates pride in worthy achievement, deepens respect for a high order of mechanical skill, and demonstrates that success is impossible without mental alertness, patience, foresight, deftness, and unceasing care.

The important distinction between trade schools and manual training high schools cannot be too strongly emphasized, for these two classes of institutions are likely to be confused in the public mind. It is the function of a trade school to teach thoroughly any one of many trades as rapidly as the student's ability will permit. No instruction is given that does not bear directly upon the chosen trade. Obviously the choice of occupation must be made on entering the school. If experience demonstrates that the choice is unfortunate, a change necessarily involves considerable loss of time. If a boy begins to learn the carpenter's trade and discovers, after a time, that he has special aptitudes for sign painting, the time

spent at the bench will not shorten the period required to acquire skill with the brush. But the conditions of modern industrial life demand the establishment of trade schools as a substitute for the apprentice system, which is rapidly becoming obsolete. They are a priceless boon to ambitious boys in the vast army whose general education must end with the grammar school, for they offer an opportunity to secure quickly a place in the ranks of skilled workmen. Nevertheless, the functions of a trade school are strictly special; general education does not fall within its scope.

The manual training school, on the contrary, teaches the elements of mechanic arts primarily on account of their educational value just as arithmetic and geometry are taught. But the manual dexterity and the knowledge of tools, materials, drafting, and methods of construction acquired at school serve to advance boys many stages toward the mastery of any trade. Moreover, their elementary but systematic knowledge of the entire field of mechanic arts gives them the same advantage in dealing with the difficult problems of any trade that a liberal education gives to the student of law or medicine.

The Mechanic Arts High School will prolong the school life of many boys who would not attend the ordinary high schools, by offering an attractive course of study, highly practical in character, calculated to reveal to them their native aptitudes and possibilities, lead them to a happy choice of occupation, and fit them to grapple more successfully with the problems of life. Moreover, the school is sure to arouse in many boys an ambition to continue their studies in a higher institution, and it offers the best possible preparation for the higher scientific and technical schools; for the manual dexterity and the thorough knowledge of tools, machinery, and mechanical processes, acquired in the shops, at an age when time can be most easily spared for such training, is of priceless value in any scientific pursuit. The shop exercises make great demands for patience, perseverance, and

painstaking care, and they are calculated to stimulate a high order of mental activity. The school will aim to encourage every noble endeavor, foster every worthy ambition, insist upon high standards of attainment in study and of perfection in mechanical work, cultivate self-control, kindness, politeness, and manliness, and deepen respect for honest toil. It already gives encouraging assurance that it will justify the expenditure made in its behalf by doing its full share of the work of transmuting into noble character the diverse elements that our complex civilization pours into the public school.

Respectfully submitted,

CHARLES W. PARMENTER,

Head-Master of the Mechanic Arts High School.

REPORT OF DR. LARKIN DUNTON ON THE
BOSTON NORMAL SCHOOL.

To the Superintendent of Public Schools.

DEAR SIR: Your letter, dated Jan. 30, 1895, asking for a full report of the Boston Normal School, "its work, its aims, its methods, its needs, and its opportunities for improvement," was duly received, and it gives me pleasure to comply with your request.

HISTORICAL.

A Normal School was established in the city of Boston in 1852, by the City Council, on the recommendation of the School Committee. It is interesting to note the ground on which this action was based. In the language of a former member of the School Committee: "The friends for further opportunities for the graduates of our girls' grammar schools," fearing to revive an old controversy, hesitated to move for a high school; and therefore, in the faith that they should find no opposition to the preparation of female teachers, established a Normal School.

"It was found, however, that girls fresh from our grammar schools were not fit candidates for normal training." So in 1854 the School Committee, with the view of adapting the school to the double purpose of giving its pupils high school and normal instruction, caused "the introduction of a few additional branches of study, and a slight alteration in the arrangement of the course," and called it the Girls' High and Normal School. But the normal features were soon quite overshadowed by the high school work.

To remedy this defect a training department was organized

in 1864, and located in Somerset street; but in 1870 this department was transferred to the then new building on West Newton street, occupied by the Girls' High and Normal School.

The school was continued under the double name of Girls' High and Normal School till 1872. At this time the School Committee, finding that the normal element had again been crowded out by the high school work, and that the school had almost lost its distinctively professional character, "separated the two courses, and returned the Normal School to its original condition, as a separate school." Since then its work has been "giving professional instruction to young women who intend to become teachers in the public schools of Boston."

I was elected head-master of the school on its separation from the Girls' High School in 1872, and have held the office ever since, devoting my best energies to the instruction and training of the pupils and to the improvement of the school. During this time many changes have occurred in the school, and most of them have been in the direction of improvement.

The required age at the time of admission to the school has been changed. When I took charge of the school, in 1872, pupils were admitted at the age of seventeen. It was found that pupils so young were generally too immature to grapple successfully with the work of the school, and the required age was changed to eighteen. The average age of the pupils who entered last year, in September, was nineteen years and six months; consequently these pupils will be twenty-one years and six months old when they graduate.

In 1872 pupils completed their courses of high schools and professional education both in three years after graduating from the grammar schools. One of my first efforts on taking charge of the school was to require the completion of the high school course before pupils could enter the Normal School. About that time a fourth year's work was added to the

course of study in the Girls' High School. Then came an effort on my part to make the completion of the fourth year's work in the Girls' High School a condition of entering the Normal School.

When this had been secured, I asked that the course of study in the Normal School be extended to a year and a half; which was done in 1888. In 1892, at my suggestion, another half year was added to the time required to be spent in the Normal School.

It thus appears that the time required to be spent by the graduates of our grammar schools in fitting themselves for teachers in primary and grammar schools has been extended from three to six years since I began my work as headmaster in 1872. This change has not been secured without much thought and labor; for it was not deemed wise to ask for any addition to the required course of study till the value of what was already required had been demonstrated by its results. Consequently the progress of the school in this respect has been slow. And yet it is a great advance to double the required high school and professional work of intending teachers, even if it has taken twenty years.

Together with this lengthening of the course of study in the Normal School has come a corresponding broadening. Systematic instruction in the principles and methods of teaching drawing has been almost exclusively developed in the school since 1872. Previous to that time candidates for teachers were not required to prove their ability to give instruction in this branch. The same is true in the department of music. Within a few years a thorough and systematic course in the principles, practice, and methods of teaching gymnastics has been introduced. So that our pupils now go out from the school as well qualified to teach gymnastics as reading or arithmetic. With the increasing demands upon teachers in the department of elementary science has come a systematizing and strengthening of this department in the Normal School; so that we now send out graduates with

clear views as to the end, means, and methods of elementary science teaching. Provision has also been made for instruction in moulding, sewing, cooking, sloyd, and other forms of hand work.

The department of kindergartening has been created in the school within a few years. It was not an uncommon thing a few years ago for a young woman who had had only one or two years of high school education to take up the study of the kindergarten for one year, and then enter upon the work of teaching. Pupils in the Normal School, who study this subject, are required to have the same qualifications on entering as other pupils, and are required to spend the same time as other pupils before graduation. It is hoped that by this means the kindergartens of the city will gradually become more efficient by being in the hands of better educated and better trained teachers. Another advantage hoped for in this connection is the bringing of the kindergartens into closer organic relations with the other grades of our public schools, — a thing that can scarcely be expected till the kindergarteners are made familiar with the aims and methods of the other grades. If this department is developed as it should be, I hope much from it, both for the kindergartens and the primary schools, through the mutual reaction of each upon the other.

There is still another change that has been wrought in the work of the Normal School since its separation from the Girls' High School, which has proved to be of great benefit to the schools of Boston. I refer to the giving of professional training to all young women who are to become teachers in the city. When I took charge of the school, graduates from the three years' course in the Girls' High School were eligible as teachers in our schools; some were elected who had not even finished this course. The result was that many of the brightest high school graduates did not come to the Normal School at all; and this number was increased by the advice of the then head-master of the Girls' High School to his

pupils to remain with him another year, and then still another, and so on indefinitely, instead of attending the Normal School.

As soon as I understood the situation, I began to cast about for the remedy. First came the formal rule of the committee, that, "When teachers are to be employed in the public schools, graduates of this school shall have the preference, other things being equal." Then was added a rule which gave normal graduates two hundred dollars more than others. But neither of these provisions secured the desired end, namely, the attendance at the Normal School of all the high school graduates who were to become teachers in Boston.

At last, after I had pondered long on the question, a very simple and at the same time a very effective remedy for the existing evil occurred to me. I went that very day to the chairman of my committee, Mr. Charles Hutchins, and explained to him that Boston was maintaining a Normal School which nobody was required to attend. I then said to him, "The committee should at once adopt a rule forbidding the appointment of any inexperienced teacher who has not had normal training." He replied, "The committee will never pass an order like that."—"Ought it not to be done?" I asked. "Certainly," said he. "Will you personally favor such an order?" I asked. "Most certainly I will," was his reply. Within a week I had had a similar conversation with a majority of the School Committee. The result was the adoption of the rule suggested. Since that time the Normal School has not lacked pupils of the best talent and training that go out from our high schools, and the teachers appointed in Boston have been either teachers of experience or of professional training, and more than a thousand of them have been graduates of the Boston Normal School. Professional training, practically required of all candidates for teachers in the city, has done more to raise the standard of teaching in Boston during the last twenty years than all other influences combined.

From the foregoing sketch it appears that the present Boston Normal School is not the immediate creation of any one man or any one set of men, but a steady development from the original germ planted in 1852. This development, it is believed, has been, in the main, in accordance with the best educational intelligence of the times. The school has always endeavored to adapt itself to the changing and increasing demands of the city. While it has constantly sought to be in accord with the best pedagogical views, it has as constantly endeavored to lead the teaching profession to clearer ideas of educational philosophy, and thus constantly to create a demand for something better, which demand it has, in turn, tried to meet.

THE SCIENCE OF EDUCATION.

The work of the Normal School may be ranged under two heads, theory and practice. It is the object of the school to teach its pupils the science of education, and to give them some skill in the application of this science.

Education may be viewed as the influence of educators upon pupils, as the resulting activities of the pupils, or as the effect of their activities. Regarding education as the work of the child, the science of education may be defined as the science of the activities of the child, designed to change him from what he is at the beginning of the process into what he should be at its close.

A thorough knowledge of the science of education requires these activities to be viewed from various standpoints. The most important of them are the end or aim, the nature of the activities themselves, or the process of education, the agents by which the process is caused, the means to be used and the use of the means. In brief the science of education treats of the end, the process, the agents, the means, and the method of educational activities.

It is the aim of this school, on the theoretical side of its work, to bring its students into a clear knowledge of each of

these elements in the science of education. We endeavor to teach them these truths :

1. The aim of education is a man capable of the largest amount of service to others and of the largest amount of personal happiness. Both of these elements in the end of education are determined by a knowledge of the civilization of the age and country in which the pupil is born and in which he is to live, together with a knowledge of the pupil himself, both mental and physical. The knowledge, power, and habits which would fit a child for a happy and useful life in one country would not in all respects fit him to live in another. The language that a child should be taught to speak and write, the sciences that he should know, the applications of arithmetic that he should master, the literature that he should read, and so on to the end of the list of what he should know when his education is finished, all depend upon the civilization into which he is born and the country in which he is to spend his life.

We endeavor to bring our pupils into such a comprehension of this truth that they will understand the ground upon which a necessary and consistent course of study for children is to be chosen and arranged.

2. A comprehensive and clear view of the process of education includes a knowledge of the possible activities of a child, the laws that govern these activities, and a knowledge of the activities needed to attain the desired end.

To know what a child can be made to do presupposes a knowledge of his physical and mental constitution, hence our pupils review and broaden their knowledge of physiology, and acquire a practical knowledge of psychology. We give special attention to the different kinds of mental action, and to the dependence of one kind of mental action upon another. Unless this dependence is understood, the teacher is either acting at random, or as a mere empiricist. This is made the foundation of the science of method, and it has an important place in the work of the school.

The laws which govern the effect of mental action are carefully considered. That the mind acquires power by its own action alone, and that habits, whether physical or mental, are formed by the repetition of processes, receive the most careful attention and abundant illustrations.

3. We should distinguish the different agents whose business it is to secure the action on the part of the children which is necessary in order to make them over into ideal men. We recognize the family, society, the State, and the church as the fundamental institutions of civilization; and we recognize that each has its proper function in the education of children. We thus come to recognize the school as the helper of the other educational agents, and to assign to it its proper function. Without this comprehensive view of educational agents, teachers are constantly meddling with what lies outside their special province, and are ever burdening their consciences with many things for which they are not in the least responsible.

4. A careful consideration should be given to the means to be used by the educator, especially by the teacher, in order to provoke in the child the activities needed to produce the desired result. The means required to cause the different kinds of needed mental action are carefully examined, so that our students may go out from our instruction with clear ideas of the proper stimulants to different kinds of action.

On this study is grounded the knowledge of the proper place of object-teaching, purely oral instruction, and the use of books, and the relation of the one to the other.

5. Methods of teaching are to be determined by the necessary sequence in the different kinds of mental action. There are the processes of presentation, representation, and thought, and of induction and deduction, which stand to one another in a definite relation, that cannot be changed. Hence the necessity of knowing, not only how to stimulate different kinds of action, but the order in which these kinds of action must be called out in mastering any branch of knowledge.

One knows the true method of teaching any subject if he knows the different mental processes which the pupil must go through in mastering the subject, and the order in which these processes must occur.

TEACHING THE SCIENCE OF EDUCATION.

The elements of the science of education are not studied in the order named above. The ground is covered to a considerable extent in connection with the study of the different subjects embraced in the course of study. The gathering up of the whole subject and arranging all the parts in a systematic order we do not undertake till near the end of the course. It may be of interest to tell briefly the immediate aim of each subject studied in the school.

Psychology is studied both from the standpoint of introspection and that of observation. The students are led to know and name their own mental processes, and to interpret the signs of the mental processes in others. The study is by no means exhaustive; the attention of the pupils is directed mainly to those phases of mental action which will be of the most use in the study of education as a science, and in its application to the practical work of governing and instructing children; the purely metaphysical phases of the subject being touched upon very lightly or not at all. My attitude toward the subject of psychology may be described as one of conservative open-mindedness. While clinging tenaciously to all the old which I know to be true, I welcome all the new which is proved to be true. I allow psychology and physiology to walk hand in hand, and rejoice in all the help that each can render the other. At the same time I recognize the fact that not all the true is new, and not all the new is true; and, consequently, hold myself under obligation to try all things and hold fast only that which is good. In this way I endeavor to keep my instruction in this department abreast of the best thought of the age.

Logic is studied enough to give our pupils a knowledge of

its terms, to interest them in a further study of the subject, and to give them such a familiarity with the processes of reasoning as will enable them to direct the reasoning of their pupils with more exactness. This subject furnishes some of the data for the science of education. It shows the ground for the relation of induction to deduction, and of both to clear and exact representation.

Principles of education are mainly inferences from the data furnished by psychology and physiology, considered in their broadest sense. The students are led to the inference of the necessary sequence of the different kinds of mental action. The dependence of memory and imagination upon previous external and internal perception, and of deduction upon previous induction are carefully noted. The control of conduct of others through an appeal to their wills, of their wills through their feelings, and of their feelings through their intelligence is made a matter of clear knowledge. The relation of free will to moral responsibility is revealed. The laws of the development of power and of the formation of habits by the activity of pupils themselves is traced from the simplest forms of perception through memory, imagination, reason, and all other kinds of mental action, even to the development of character by means of self-direction and self-control. The principles which determine the best methods of teaching are carefully grounded upon the necessary sequence of the different kinds of psychical action. The principles which determine the rational government of children are based upon the laws of the creation of power and habits through self-activity. This subject closes with a systematic view of the science of education, the principles of which have been gradually unfolded in connection with the whole course of study.

Our work in elementary science includes a study of the principles and methods of teaching the elements of mineralogy, botany, and zoology. We strive so to equip our students for their future work that when they become teachers they will be able to direct their pupils so systematically in the observa-

tion and classification of minerals, plants, and animals, that these pupils will acquire correct habits of observation and will have such a knowledge of the qualities of objects observed and of the relation of these objects to one another and to the rest of the world that they will perceive the beauty and harmony pervading the world in which they live.

Our work in the history of education is not intended to be by any means exhaustive. We try to make our students familiar with a few of the leading educational reforms and reformers of the past, so that they will understand the genesis of current educational theories, and thus be brought into sympathy with the spirit of modern education.

The purpose of the work in physiology and school hygiene is twofold: first, to give the normal students a practical knowledge of the laws of health, based upon a knowledge of anatomy and physiology, in order that they may know the means of securing and preserving their own health and that of the children whom they are to teach; and, secondly, to prepare them to give elementary instruction in physiology to pupils in primary and grammar schools.

Our purpose in the work on the English language is to prepare the normal students, first, to teach children to speak, read, and write their mother tongue with accuracy and facility, and secondly, to awaken in the children a love and appreciation of good literature. In order to accomplish this object, our pupils are led to understand the principles which should guide them in the imparting of knowledge and in the development of power, in the different departments of language work, and to apply these principles in the giving of practical lessons.

The course in arithmetic is intended to develop power in our students, in analyzing the subject-matter to be taught into its elements, in arranging these elements in the logical order of their dependence, and in discovering and applying the methods adapted to their clear presentation. The instruction covers the whole range of the subject, both elementary and

advanced. Incidentally the student's knowledge is made broader, clearer, and more accurate ; but the chief purpose of the work is to show the application of the principles of teaching to this subject.

The work in geography is designed to develop in the normal pupils the ability to apply the principles of education to the teaching of this subject. They are taught to observe carefully the objects around them, to use the ideas thus gained by direct observation in picturing scenes in distant lands, to reason from cause to effect and from effect to cause in their observation of the phenomena of nature, and to infer the conditions in other places from their knowledge of their own surroundings. This subject is made to illustrate the dependence of representation upon presentation, and of thought upon both ; as well as the relation of the study of books, maps, and other forms of signs, to direct observation and oral instruction. Thus our pupils learn by their own experience the true methods of directing others in this subject.

The purpose of the work in history is to equip our pupils for teaching the subject. The work includes, first, a study of the nature of history, and the principles which should guide in teaching it ; and, second, the collecting and arranging of the material for illustrative lessons, and the giving of such lessons.

The object of the course in drawing is twofold ; first, to prepare the students to teach all branches of this subject that are studied in the primary and grammar schools ; and, second, to give them the power to illustrate any subject that may need illustration, with sketches made upon the blackboard with chalk. The details of the work are arranged and prescribed by the director of drawing, and are, by this means, kept constantly in harmony with the work required in the schools of the city.

The principal object in the study of form is to prepare the students to teach modelling, paper-folding, etc., so as to lay the foundation for drawing as based upon the observation of

the form to be drawn. After forms are made they are better known than before.

In the study of color the normal pupils are qualified to direct the observation of children and instruct them, so as to give them the knowledge of common colors and their names, together with their most important harmonies and contrasts.

In the department of vocal music it is the aim of the school to qualify the students to direct the children properly, first, in the study of musical sounds; and, secondly, in learning the proper mode of representing music. Music itself is made the chief object of study, the study of signs being confined for the most part to those needed to express the child's knowledge of music. In this subject is clearly shown the true relation of direct observation, namely, hearing musical sounds, to representation, namely, recalling the ideas of musical sounds when their signs, namely, the notes, are seen. Here, too, is well illustrated the law that direct observation and oral instruction should precede the use of books.

The course of work in gymnastics gives to every pupil in the school (1) a study of the theory of gymnastics, two hours a week, for four terms; (2) a carefully arranged drill in the exercises for three terms; and (3) one term's practice as teacher and critic of the exercises. The study of the theory includes the laws of power and habit, as applied in physical education, and a knowledge of the muscular action and of the distribution of the blood, involved in each of the exercises. The work as director and critic gives the pupils facility in the application of the laws learned in their theoretical study.

The work in the department of the theory and practice of the kindergarten includes (1) the preparation of the special students in this department for teaching, either as assistants or directors, in the city kindergartens, and (2) a course of lessons to all pupils who do not make kindergartening a speciality, in the theory of the kindergarten, and also a course of lessons in kindergarten methods, with reference to their ap-

plication to primary school work. Thus we attempt both to prepare special teachers for this work, and also to give to our students in general such an insight into its principles and methods as will bring the kindergarten into closer organic relation to the other grades of the public schools.

OBSERVATION AND PRACTICE.

In addition to the work on the theoretical side of education is the corresponding work on the practical side. While the school attempts to make clear to its students a knowledge of the science of education, it endeavors to make them familiar with the practical work of the school-room.

Under the rules of the School Committee our pupils spend sixteen weeks, almost a quarter part of the entire time devoted to the course in the Normal School, in observation and practice in the public schools of the city. This is so important a part of the training of teachers that we endeavor to prepare our students for the work with the greatest care.

This preparation may be divided into three distinct steps or stages. In the first place, we initiate our students into the mysteries of preparing a lesson to be given to a class of children. We teach them to resolve the subject matter of the lesson into its elements, and to determine from this the different mental processes which the children must perform in learning the lesson; then to arrange these processes in the order of their dependence, so as to determine the method of teaching the lesson; next to select the necessary means for causing these processes, and to decide what use to make of the needed means; and finally, how to prepare the minds of the class to apperceive the new truths to be taught.

In the second place, we give them an opportunity to see the progress of several well-prepared lessons given to classes of children. This is done in the Training School. As various subjects are discussed in the Normal School from the teacher's standpoint, and especially when we are studying the preparation for the giving of lessons, we allow our pupils

to go into the Training School and listen to the teaching of similar lessons by teachers of experience and skill. When we are discussing the teaching of reading, reading lessons are observed; when the giving of lessons in arithmetic is under consideration, we observe arithmetic lessons, and so on. After the first few of these observed lessons, we require our students to report to their teacher, who always accompanies them, and to one another, just what they have observed, without note or comment. After they have gained some skill in reporting lessons, they are asked to go a step further, and to infer, from what they see and hear, the aim, or end, of the lesson.

The last step in this work preparatory to observation and practice is the giving of lessons by our students to their classmates. This is sometimes objected to, on the ground that it is not real teaching. It is not teaching children, and in many cases is teaching nothing new. There is no awakening and holding the attention. There is no arousing of interest. There is no effort at discipline. All this is recognized. Our pupils give these lessons only as an exercise in conducting a lesson in an orderly way, in systematically developing questioning, in the proper conducting of one's self before a class, and in the efficient use of the means of teaching, whether books, chalk, maps, flowers, words, or any other means. We believe that harm enough is done to the children by the novice, even after she has had some experience in questioning and conducting lessons under the most favorable conditions.

It is not till the theoretical and practical study of education, heretofore described, has continued from the first of September to the following February, that the normal pupils are allowed to enter the school-rooms of the city as observers and pupil teachers. The first term, or half year, they do not observe and teach at all; the second term they spend four weeks at this work; the third term they spend eight weeks; and the fourth term four weeks. This time, term by term, is equally divided between the primary and grammar schools,

except in the case of the kindergarten pupils. They observe and practice only eight weeks in all in the primary and grammar schools, mostly in primary schools. The rest of their observation and practice work is done in the kindergartens. Whenever our students are engaged in this practice work, they spend the same number of hours at school as the regular teachers, namely, five and a half, — from a quarter of nine till twelve, and from a quarter of two till four. One of our pupils only is sent to a teacher, and she remains with the same teacher, either two weeks or four, continuously.

For the purpose of this work we divide our classes into two sections, and send out these sections alternately; so that there is never more than half a class engaged in practice work. None of this work is done either in September or June, because it seems better for both the children and teachers that they should be alone during the busiest months of the year. During the other eight school months half of either one class or the other of the normal pupils spend their entire time in the public schools. The teachers with whom our students work are called training teachers.

The time of the students in school hours is devoted to teaching the classes, observing the work of the training teachers, and assisting the training teachers both in teaching and in the general work of the room. Assistance may often be given by the normal students to individual pupils of the class, work may be written upon the board and erased, books, pens, pencils, maps, etc., may be cared for, records may be kept, and, in short, any work may be done that the training teacher desires the observer to do. Of course this kind of work is to be assigned by the training teacher with moderation, so that the observer will learn to do all sorts of school work, but at the same time will not have her attention distracted from the observation of teaching and discipline.

The amount of class teaching that our students do varies somewhat from term to term, and indeed from month to month. I like to have them spend at least the first day with

every training teacher with whom they work, exclusively in observation. They by this means have an opportunity to learn the names of the pupils. They can also notice what the advancement of the class is in the various studies. This is necessary to the intelligent preparation of lessons to be given; for otherwise they are working in the dark, and trying to build without knowing the foundation upon which the superstructure is to rest.

I advise them to attempt not more than one or two short lessons each day during the first month or two of their work in the schools. With more experience they can profitably teach more. Near the end of the course they should teach at least half the time. As they advance in experience and skill, more and more of the responsibility for the work and discipline of the class should be thrown upon them; and finally they should be left in entire charge of the classes, the training teachers assisting by criticism and advice. This, as it seems to me, is the most favorable condition under which a young teacher can assume the responsibility of her office.

It is sometimes said that, even under these circumstances, the children are not so well taught as they would be by their regular teacher alone. This is no doubt true for any given day; but when a teacher is made responsible for the work of another, and for the proper application of educational principles, she necessarily raises her own standard; so that the children under charge of training teachers, on the average the year through, fare better than others. And even if this were not the case, beginners must begin. Every young doctor has his first patient, and every lawyer his first case. But in medicine the danger is reduced to the minimum by hospital practice, where the novice has his work superintended and his judgment corrected by the wisdom of an experienced physician; and in law the part of senior counsel guards the interests of the first clients.

This course of constant observation of superior models of instruction and discipline, and of teaching and governing

under advice, direction, and criticism, is continued for nearly half a year. Even then we do not pretend to turn out our students as experienced teachers; but we do think that their mistakes, when they come to take charge of classes independently, will be much fewer than they would be without this training, and that the amount of constant supervision and direction, demanded of the principals with whom they begin their professional work, will be materially decreased.

INCIDENTAL WORK OF THE SCHOOL.

While the immediate aim of the Normal School is to give its students a knowledge of the science of education and some skill in the practical application of principles to the work of teaching and governing, there are important incidental effects upon the students themselves.

One of these incidental effects is increase of scholarship. The relation of nervous excitation to mental action cannot be studied without obtaining a deeper knowledge of the conditions of mental action, on the one hand, and of the structure and function of the nervous system, on the other. To learn the conditions for the growth and healthy actions of the body is to broaden the knowledge of anatomy and physiology, of the chemistry of foods and air, of the processes of respiration and digestion, and of the effects of exercise and sleep. The theory of gymnastics is little more than a knowledge of the nervous and muscular systems, together with the relation of each to the other, and of the action of both to the development and health of the body.

The effect of reducing the process of learning each department of arithmetic to its elements, and of arranging these elements, in the logical order of their dependence, so that the mastery of the science of arithmetic is seen as a series of continually dependent mental acts adapted to the intellectual nature of children, — the effect of all this is to give a profounder insight into the nature of the science itself as well as into the nature of the human intellect.

When the learning of geography has been treated in a similar manner, so that the students perceive the necessary mental steps in its mastery, and the dependence of one step upon another throughout the entire process; and when they have traced the elementary forces of light and heat through the formation of mountains and valleys, oceans and rivers, climate and soil, flora and fauna, human life and human industries, physical and mental development, and civilization itself, geography is to them a new science, and the human soul a new power. The analysis of the process of reading into its elementary activities, the determination of the antecedent conditions of each of these elements and of the activities which make possible the conditioning activities; then the following of all the involved activities in order from the learning of thoughts, the hearing of spoken words and the seeing of written words, to the complex process of the reading aloud of imaginative composition, with all the proper tones, inflections, and emphasis, so as to give full expression to the author's meaning and sentiment; and the discovery, by this means, of the true method of teaching children to read, — all this is to know what reading is with a completeness never before approached. And the same is true of the discovery of the true method of teaching music, spelling, history, literature, and every other branch of study which the Normal students are prepared to teach.

Many of the high school studies, notably mineralogy, botany, zoölogy, and astronomy, receive much incidental broadening and deepening. In learning to direct the observation of the children in any branch of elementary science, our students acquire an additional familiarity with the elements of the science. In studying the relation of the solar system to the phenomena of day and night and the changing seasons, astronomy itself assumes new shape and added importance.

Then there are several subjects studied seriously for the first time in the Normal School which open up to our

students new views of nature and art. We study the elementary sounds of the English language so carefully as to be able to reduce them to a perfect system. And then we study them in their mode of production, first the different classes of sounds, and then the individual sounds of each class. The resulting knowledge is really scientific; and when our students come to the teaching of the elements of reading, they are able to use this knowledge effectively.

The study of the history of education gives the students a new view of the progress of human development. Here the slow and tortuous genesis of modern educational doctrine is traced in the life and work of the old educational philosophers and reformers. By this means our pupils gain clearer, broader, and profounder views of modern education, both in its aim and process.

The study of the different theories of the origin of language, and of the generically different types of language, opens a view of the multifarious development of the human mind under diverse conditions.

The study of logic reveals for the first time to our pupils a knowledge of the laws of thought, in accordance with which they have been reasoning all their lives. Grammatical analysis and parsing, therefore, possess a new significance. They become simply exercises in elementary logic; and are guided with a new strength and degree of certainty.

Psychology is an entirely new study for our students. Here for the first time they inquire into the interdependence of body and mind. Here is developed the power of introspection, of analysis of complex mental states, of comparison of like activities of the soul, and of the reduction of mental states to a systematic order. Here mental states are first studied in their causes and interdependencies. And it is in connection with this subject that our pupils first examine the manifestation of mental states in others. In this subject is first brought to light the distinction between externally originating action and self-activity, or free will, — the distinc-

tion between the control of others and the direction of self. In short, here is revealed the infinite variety of action and manifestation of the unity of the soul.

All these subjects which are commenced in the Normal School are not studied primarily for the sake of the knowledge of the subjects themselves, but for the light they shed upon, and the data they furnish for, the various phases of the science of education. From data thus furnished many of the principles of education are derived. Ideal candidates for a Normal School would have mastered physiology, psychology, logic, and all other sciences which are presupposed in the study of the science of education itself. But in this school, as in all other Normal Schools, necessary conditions must be met.

An important result of the work with the training teachers and of the constant criticism by the normal teachers is a spirit of docility. Our students are trained to think that teaching is not only one of the noblest, but the most difficult, of human occupations. And when they leave the Normal School they are generally impressed with the fact that they are just ready to enter upon the profounder study of education; so that they are not only ready to receive advice, but thankful for intelligent criticism. They are certainly thoroughly instructed in the doctrine that it is the duty of an assistant to assist.

Another incidental effect of the normal course is its reflex influence upon its pupils in the form of enthusiasm. The possibility, ways, and means of self-development are constantly becoming clearer to them. Their views of the ways in which, and the means by which, they may become useful to their pupils in the acquisition of knowledge and in the formation of character, are constantly broadening. Consequently, the duty of self-improvement and of devotion to the good of others is made ever more apparent. Thus narrowness and selfishness are made to yield to catholicity of view and feeling, till the desire and determination to make the

most of themselves and to render the best service to others becomes a prevailing sentiment, little less than a consuming zeal.

How many times I have had pupils come to me at the close of the course, and subsequently, and say, "You can never know what this school has done for me. It has lifted me into a new life. It has opened a new world for me. I am glad I have taken the course in this school if I never teach a day. But for this I should not know what teaching meant." How many times they have said to me, "Teaching means so much to me, and such results hang upon it, that I am almost afraid to attempt it, and yet I will try so hard to do well."

To pupils with such a heart, and with a clear head to direct, I feel that it is safe to intrust the interests of the children. They will still need to have their theories modified, and their judgment improved by contact with children and parents; but they are infinitely better prepared to begin their work on account of their normal training.

Years ago there were given in the Normal School a large number of courses of lessons to teachers already in the service of the city. My records show that in 1880 there were given twelve courses of such lessons; in 1882 about the same number. These lessons were given by the superintendent of schools, the supervisors, the head-master of the Normal School, the masters of different grammar schools, and by special teachers in different departments of work in the city. It seemed to me at the time that these lessons were of great value. They were, however, discontinued on economic grounds, though I believe the extra expense of this kind of instruction never exceeded five hundred dollars a year. If they had been continued to this time, the sum total of their influence upon the teaching in the city must have been very great. I would suggest the propriety of reviving this branch of instruction for teachers in some form.

BETTER ACCOMMODATIONS.

As the work of the Normal School grows more complex, our need for increased accommodations grows more urgent. The school has reached the point in its development when the demands made upon it cannot be met in the cramped space into which we are crowded. About nineteen years ago we were assigned quarters in the hall and two other rooms in the attic of the Rice School, and there we have been ever since. By the courtesy of the Training School, though with great inconvenience to them, we occupy two recitation rooms on the second floor. This is the extent of the room furnished by the wealthy city of Boston to its Normal School, where more than a thousand of its teachers have already received their professional training.

It cannot be denied that the present demand, which is becoming more widespread and insistent year by year, for better instruction in the public schools in natural science, in physiology and hygiene, and in physical training, is a just demand. Yet for lack of adequate facilities and for space in which to utilize such facilities if we had them, this school is precluded, at present, from doing what it would and should do towards meeting that demand.

We need a gymnasium. Our students cannot teach gymnastics effectively unless they have been schooled in gymnastic exercises, in addition to being grounded in the theory of physical training. Owing to our lack in this respect and to the absence of all gymnastic apparatus, the practical work in gymnastics cannot be successfully carried on in the school. Through the kindly courtesy of the director of the Boston Normal School of Gymnastics, the well-equipped gymnasium of that institution has been placed at the disposal of our special students in gymnastics four times a week for the last two years. By this means a personal and professional work has been done which otherwise must have been omitted; but this is attended with much inconvenience and loss of

time on the part of both students and teachers. More than this, it is impossible for all our students to avail themselves of this help, though all would be greatly benefited by it. But for this charity, we should be unable to give practical instruction to any of our pupils in physical training beyond the calisthenic exercises which are given in a partial and tentative way in our crowded rooms and narrow corridors. We are doing a little something in this field, but we could and would do much more if we had reasonably good facilities.

There is imperative and pressing need of an adequate and well-equipped gymnasium for the use of this school. Such a gymnasium would serve a two-fold purpose: (1) It would afford all our pupils an opportunity to improve their physique and vigor by the regular systematic practice of more varied, strenuous, and interesting forms of physical exercise than can be undertaken under the present hampering conditions; (2) it would enable us to expand and improve our elective course in physical training. Until we are enabled to expand and improve that course, both on its practical and theoretical sides, we cannot effectually accomplish our aim, which is to send out graduates who are thoroughly well fitted to second the efforts of the Director of Physical Training towards securing more efficient instruction in gymnastics in the schools. That Dr. Hartwell would welcome such aid and looks to us for it is evident from the following extract from his last report:

“The full and lasting success of Boston’s present tentative effort to profit by the example and experience, in the field of physical training, of other cities and countries will depend very largely upon the character of the support given to the department of physical training in the Boston Normal School. This school is conspicuous, in its class, by reason of the fact that its managers have taken measures to provide for its pupils theoretical and practical instruction in Swedish school-gymnastics, which measures have been cheerfully seconded hitherto by the School Committee. But the department is

still in embryo, and its expansion and efficiency have been hampered by the crowded state of the curriculum and the insufficient resources of the school. Provision has been made, however, in framing the new course of study for the Normal School, for better instruction in gymnastics than was formerly practicable. Gymnastics has been placed in the list of electives, and twelve members of the class of 1893-94 availed themselves of the opportunity to elect it as a special study. Experience shows that the corridors of the Normal School are a poor substitute for a well-fitted gymnasium. It is wisely proposed to include such a gymnasium in the projected extension of the Normal School building. If a well-equipped gymnasium be provided it will add greatly to the usefulness and efficiency of this department, especially if the recently authorized experiment in developing departmental teaching in the grammar schools shall prove a success, and lead to a new departure in the management of those schools. . . . The reference library of the Normal School has been improved by the addition of a few modern works on anatomy, physiology, and hygiene. The school is sadly in need of preparations, models, etc., for purposes of demonstration and illustration. It is a pity, to say the least, that the pupils of our Normal School should be obliged to waste time, as they are at present, in studying the elementary facts of anatomy, physiology, and hygiene, when they might be prepared, on leaving the high school, for the profitable study of the practical application of the principles of those sciences to education and school-life, if the high school course in the biological sciences were properly coördinated and conducted."

It is of the utmost importance, in my opinion, that the graduates of the Normal School should clearly apprehend the principles of hygiene and their bearing upon education and the incidents of school-life. I quite agree with Dr. Hartwell as to the desirability of so unifying and coördinating the course of nature study in the lower schools that the graduates of the high schools who come to the Normal School for

their professional training as teachers should be prepared to profit from instruction in the *principles* of anatomy, physiology, and hygiene, and in the application of those principles to the education of children and youth. Nevertheless, we are placed at present under such disadvantages, by reason of crowded space and lack of appliances, that it would be extremely difficult, if not impossible, to organize such instruction effectively, even if the course of nature study in the lower schools were all that we could wish. Our work ought not to be thus crippled, and certainly we ought not to rely permanently upon charity for the means of doing what little is done. A gymnasium thoroughly equipped with all the apparatus and other appliances for giving gymnastic instruction and training, that are to be found in the best modern institutions, is as little as Boston ought to afford for the training of its teachers of sixty-five thousand pupils.

A laboratory for work in elementary science is equally imperative. Much of the success of our course in this department has been due to the liberality of friends. The Society of Natural History, recognizing our needs and being anxious for the best teaching in the public schools, have given us the free use of their collections and laboratory, beside instruction from well-known specialists in zoölogy and geology. To the biological department of the Institute of Technology the Normal School is deeply indebted. They have generously given us the use of their microscopes, access to their library, and much of their time. Ought the preparation of our teachers for this branch of instruction, which is gaining in importance year by year, to be dependent upon outside help? We cannot do the best work in this department until we have a laboratory, apparatus, and a library in our own building, suitable for the work required.

Since the inauguration of our new system of elective and special courses, a year ago, Dr. Hartwell has lectured to a portion of our students upon selected topics in physical training and hygiene. But he informs me that owing to our lim-

ited resources and lack of modern appliances he cannot make his instruction so objective and practical as the times demand. If proper facilities for demonstration and illustration were afforded him, I doubt not that Dr. Hartwell could be induced to give instruction on the principles of school hygiene to all our students that would prove of practical value to them and their future pupils.

A room and appliances for manual training are also needed. In this department we are wholly dependent upon the charity of the benevolent. If manual training is to take and maintain the rank in our schools that its friends claim is its due, provision must be made for the preparation of suitable teachers. This is the business of Boston.

We also need a room specially fitted up for the department of drawing. The ordinary recitation room is poorly adapted to this purpose. We need models and room to observe them, so that a whole class can be properly instructed at the same time. Such a room, and indeed any room that can be given up to this purpose, we do not possess.

We are equally crippled in the department of kindergartening. We have no room in which the instruction to students making this subject a specialty can properly be given. As a matter of fact, the instruction to one class of kindergartners has been given all the year in the teachers' room of the Training School, a room so small that anything approaching proper ventilation has been an absolute impossibility. A room fitted with ordinary school furniture cannot be used for this kind of instruction; hence the necessity for special accommodations.

Here is a school containing from one hundred and seventy-five to two hundred students, and employing twelve different teachers, with a curriculum so complicated that the school must be broken up into at least eleven different sections. Several of these sections are pursuing special studies which require well-equipped laboratories and special means of illustration; and yet the school is without a single laboratory, and

has but four recitation rooms. What teaching cannot be done in these four rooms has to be done in the corridors and in the hall where the students sit for study. In this hall we are often obliged to carry on one, two, and sometimes three recitations at the same time. From these facts it must be obvious to any candid mind that our need for additional accommodations is urgent.

There is another important matter in connection with the overcrowded condition of this school which is apt to be overlooked. The school has grown so steadily that we are liable to forget that room enough for one hundred is not room enough for two hundred.

At the present time, just about one-fourth of the first-class are either out of school on account of sickness, or are so ill that it is necessary to excuse them from doing a portion of the regular work. The teachers in the Normal School are confident that this state of things is caused in no small degree by the overcrowding of the rooms which we are obliged to occupy. It is impossible to keep seventy-five or a hundred pupils in one poorly-ventilated room and preserve that degree of purity of air which is absolutely essential to health. Pupils who do not rate themselves as really sick are hindered more or less in their work on account of the crowded condition and consequent foul air of our rooms. If for no other reason than the health of our students, the relief which would come from more ample accommodations is absolutely necessary.

TRAINING TEACHERS.

The work of observation and practice by the normal students, as already stated, occupies nearly one-fourth of the entire time of the course in the Normal School. In this work they learn the practical application of the principles studied theoretically in the Normal School itself; hence the necessity of making the conditions under which this work is done as favorable as possible.

The teachers with whom our students observe the work of

teaching, and with whom they make their own first efforts at teaching, are called training teachers. It is the business of these training teachers to assist the normal students in the preparation of lessons, to criticise their work in teaching and governing, to guide them in all their work, and to inspire them with higher ideals of the profession of teaching and with purer sentiments of duty; so as to make the work of observation and practice contribute in the highest degree toward the ability to teach and manage classes independently.

The preparation for the giving of a lesson by a beginner in teaching is an important part of her work. She is not competent to do this without help. She is liable to err in her analysis of the subject-matter of the lesson and in her judgment as to the order in which the elements of the lesson are to be presented to the class. The adaptation of the lesson to the grade, to the age of the pupils, and to the work already done, is often beyond the independent power of the novice. In all this it is the business of the training teacher to assist. She will sometimes suggest the plan of a lesson and the method of giving it. At other times she will explain the plan and purpose of lessons that she herself is about to give. Again she will carefully examine and criticise the plan of a lesson which the normal student has prepared. The length of the lesson, the special ground to be covered, the material to be used in teaching, and the method to be employed, are all to be critically examined and made consistent. The training teacher should strive in every way to make clear to the novice the immediate aim of the lesson to be given, the course to be pursued to attain this aim, and the proper adaptation of the lesson to the ability and mental condition of the class.

After a lesson has been given by a normal student, it is the business of the training teacher to criticise the lesson. This is to be done in all kindness, but at the same time with thoroughness. The lesson is to be treated as a wholly impersonal thing. Was it adapted to the children to whom it was given? Was it a continuation of what they had already

done? Was it a fitting preparation for what they should do next? Was the immediate aim of the lesson constantly kept in view? Were the children allowed to wander off into unrelated fields of thought? Was the method which had been decided upon followed? Was the desired knowledge clear to the children? Was their interest aroused and sustained? Was the work done by the children or by the teacher? These and similar questions are to be raised and discussed, till the good points and the bad ones in the lesson are clearly seen. True criticism involves the making clear of both the good and the bad in the lesson. It shows, also, the reason why one thing is good and why another is bad. It shows the correct principles of good teaching that have been followed, and those that have been violated. No merely empirical criticism is of any great value. Criticism must be based upon general principles which are understood and accepted by both the critic and the teacher criticised. Only under these conditions is criticism of permanent value. The critic is to correct all errors of fact, of pronunciation, of speech, and of manner. In the correction of faults in the normal students, the training teacher should follow this order: (1) know the fault herself; (2) ascertain its cause; (3) perceive the remedy; (4) make the pupil criticised see the fault; (5) make her understand the cause of the fault; (6) show her the remedy. It is useless to tell one of these students that a fault exists, unless she can be made to see the fault, its cause, and its cure. Faults that show themselves in a lesson are often grounded, not in the wrong conception of what should be done, but in defects of character in the student criticised. In such cases the work of the critic is a difficult one. She must conduct a careful course of introspection on the part of the student, so that the student will be revealed to herself.

The training teacher is to have complete control and direction of the work of the normal student assigned to her care. This is true, not only of the teaching done, but of all other work. She is to allow no time to be squandered, but to see

that all the student's time and strength are spent to the best advantage. When the student has mastered one kind of work, she is not to be kept at that simply because she will be more useful in it, but she is at once to be set at other work in which she will learn something else that will in the future be of value to her. Training teachers too often fail in this. They sometimes assume that a young woman should know what she ought to see and do. If she did, there would be no occasion for this apprenticeship.

The last duty of the training teacher that I will discuss is that of inspiration. If the normal student leaves a training teacher without a higher ideal of the teacher's office, and without a deeper sense of her duty to the children over whom she is to be placed, she has missed the very best result of her observation and practice. Every month spent in this way should reveal to her more clearly the possibility and duty of self-improvement, the nature of really artistic teaching, the nobility of the human soul, and the means of contributing something toward the realization of its highest ideal. The soul of the child should become to her more and more an emanation from the divine, and teaching a sacred trust. Inspiration, both as lofty ideal and as holy zeal, is to be gained mostly in the presence of children, and under the guidance of competent leaders.

Let us inquire, for a moment, into the qualifications of one who is to perform the work of a training teacher with the highest hope of success.

(1.) She should be a woman of high character. Her own ideals of life and duty should be pure and lofty. Her actions, manners, speech, and spirit should be those of a refined lady. She should be warm-hearted, sympathetic, earnest, devoted to her profession, and a lover of children.

(2.) She should be a scholar. Her general scholarship should cover a wide range. It should include a thorough knowledge of history, ancient and modern, a wide range of English literature, and some knowledge of art, science, and

philosophy; her special scholarship, that is, a knowledge of professional literature, should be extensive and exact. She should be equipped with something more than an acquaintance with the methods to be pursued in teaching the subjects of her grade. She should be familiar with education, not only practically, but historically; so that she will clearly understand the relation of what she is doing in her class to the entire education of the children, and the relation of modern education to the education of the nations and the ages. Without this broad basis of general and professional scholarship, her ability to criticise and assist will be limited, and her power to inspire normal students with high ideals of professional equipment will be sadly wanting.

(3.) She should be a woman of rare teaching power. Her lessons are the models after which the normal students fashion all their lessons during the period of their special training; and, therefore, the models should be correct. Her teaching should be so clear as to awaken in her pupils a genuine love of knowledge, and a real enthusiasm for their work. Moreover, the practical work in her class should not only be correct, but should be guided by a correct theory of education, so that she will know it to be correct.

(4.) She should be an excellent disciplinarian. She should have the power to control her pupils easily, so as to keep them in order and have them constantly do the work that they ought to do. She should have a clear insight into the remote as well as the immediate aim of school discipline. She should know the relation of action to habit, so that she will make conduct in school merely the means of forming those habits of action that should last through life. Having learned how to govern her class, she has gone a step further and learned how to make them govern themselves. She knows the value of self-restraint and self-direction so well that she constantly strives to apply the law of habit to school discipline, and thus develop pure and self-reliant character.

(5.) She should be a woman of clear philosophic insight.

She should be a philosopher by nature and by education. A woman who is a mere empiricist may do good work in school, provided she has the requisite scholarship, and sufficient sympathy with children so that their needs guide her in her work; but without the philosophic mind she can never be a good training teacher. To do well here, she must be endowed with the faculty of seeing related phenomena as manifestations of a common cause, and of reducing all she knows and all she attempts to do to a system. She must have the ability to see effects in causes, and causes in effects. She must be guided in all her work by general principles. Without this rare power she will always be weak, vacillating, and contradictory in her criticisms and directions. More of our training teachers fail at this point than at any other.

(6.) She should have a thorough knowledge of the science of education. This will furnish her with principles for guidance in her own ordinary work, and principles by which the teaching and discipline of the normal students are to be criticised and directed. My observation has convinced me that there are few teachers, even among those of long experience, who are competent to act as training teachers, unless they have made a serious study of education on its theoretical side. Even those who by long and thoughtful practice have acquired so much of the real philosophy of education as to be able to do first-class work in school, if they lack special and systematic study in this science, are poorly fitted to guide beginners. Their criticisms are generally lacking in breadth of view and consequent value.

The training teachers now employed to assist our students are doing all and more, as well and better, than could be reasonably expected of them under the conditions which govern their work. I have no fault to find with them; and yet the Normal School is suffering seriously at the present time for lack of really competent training teachers. Indeed our work is, in my judgment, more defective at this point than at any other. The reason for this is not far to seek; it is three-

fold: These teachers are not paid for their extra work, they are not properly selected, and they are not educated for the special work required.

They should receive additional compensation for the additional labor which they are called upon to perform. If a woman discharges the duties of a training teacher, as I have just described them, it must be obvious that she is doing much that other teachers are not doing. If she attempts to do this work, even with poor qualifications, she assumes much extra care, labor, and responsibility; and for this she should be paid. Superior women are, as a rule, designated for this service. In other words, the women appointed as training teachers are those who have done unusually well in bringing their work up to a high standard. And for this they are asked to do more. The present plan is little other than a scheme of imposing fines upon our best teachers for having rendered superior service to the city. Certainly there is no justice in rewarding merit with additional hard work and responsibility.

The result of this plan is that in many cases the best teachers for this service are not secured. Very many of those appointed decline to serve. Some find themselves unfit for the work, and decline for this reason. Others are unwilling to render so much extra service year after year without compensation. It is easy enough to say that good teachers ought to be willing to assist beginners; and I must confess that I am often astonished at the spirit of self-sacrifice exhibited. Still the public school service of Boston is not generally considered a purely missionary field. In every other department of school work the principle of pay for service rendered is admitted. Why not apply this principle here? Without it, it is impossible to secure the best service. The system of drafting for service that requires the best talent is ineffective.

As a result of the plan of having the work done without pay, and of the resulting defect in the plan of selecting the

training teachers, it becomes impossible to meet the prime necessity of the case; namely, the education of teachers for this work. Qualifying for this special work requires the same kinds of preparation as qualifying for any other kind of teaching. It needs theoretical study and practical experience.

For the theoretical study of the duties of training teachers two conditions should exist: First, instruction, advice, and direction by one who has made a profound study of the work to be done and of the principles involved; and second, conferences among those doing the work. It is not to be supposed that a teacher can master this extremely difficult branch of educational work so readily alone as under the guidance of a master, and with the experience of others. But under the present plan of gratuitous service there is no motive for devoting time and labor to special preparation for the work. Take a common sense business view of the matter. Why should a woman trouble herself to prepare to do extra work for nothing? The present plan precludes systematic theoretical study of the work.

It equally precludes the necessary practical knowledge. Continued experience is essential to best service here as elsewhere. If experience is important for ordinary teachers, it is still more important that those who are to teach teachers to teach should have experience in teaching teachers to teach. The present plan results in constant change and the constant introduction of experience.

Moreover, these training teachers must be interested in their special work. Their hearts must be in it as well as their heads. Nowhere along the whole line of work in preparing young women for teachers does interest, sympathy, and enthusiasm count for so much as in the case of the training teacher. Is it possible for this to result from the plan of gratuitous extra service? Interest can be gained only by knowledge; knowledge requires study and continued service; and to secure these compensation seems absolutely necessary.

From every point of view this department of training

teachers is one of the most important of the Normal School work. It sets the standards of teaching and discipline for the normal students, and that means, ultimately, for all teachers in Boston. The conditions under which this work is done, then, are the conditions that fix the standard of work for all the schools of the city. The educational standing of Boston and the welfare of our children hinge upon this.

The cost of securing first-class training teachers for all the students in the Normal School would be trifling in comparison with the advantage from it. I presume a sufficient number of competent women could be found for this service, in the course or two or three years, if the moderate compensation of five dollars a week was allowed for actual service of this sort. If the School Committee realized the importance of this work, and our present difficulties, ample provision would be made for the work at once. All I have sketched along this line ought to be in complete working order by the first of October next.

CONCLUSION.

It may help us in forming a just estimate of the importance of this school and of the wise economy of the city in making ample provision for the doing of its best work to note what it has already accomplished. The graduates of the school already number one thousand three hundred and sixty-eight. Of this number one thousand and eighteen have already been appointed in the day schools of the city of Boston. Of the number thus appointed, seven hundred and thirty-eight are now teaching in the city, distributed as follows:

Number teaching in the Boston Normal School	6
“ “ high schools	13
“ “ grammar schools	274
“ “ primary schools	402
“ “ kindergartens	30
“ “ special schools	13
Total	<hr/> 738

These women have already taught in Boston an aggregate of seven thousand nine hundred and fifty years. To put the facts from another standpoint, they have already given the equivalent of one year's instruction to three hundred ninety-seven thousand five hundred children. These startling figures do not include the years of work of the graduates of the Normal School as temporary teachers, as substitutes, as instructors in evening schools, or as special assistants. So that it is safe to say that the graduates of the Normal School, since my connection with it in 1872, have taught in Boston more than ten thousand years, and have given the equivalent of a year's instruction to more than half a million children. These figures again are exclusive of the work done by our graduates in public schools outside the city, and in private schools both in the city and out. To all this, add the fact that the number of graduates from our Normal School, who are employed in teaching in Boston, is constantly increasing and is destined to increase while the city continues to grow.

In view of these facts, I submit that the crippling of our Normal School either by a lack of a suitable building, suitable equipments, suitable training teachers, or by any other means, is an exhibition of false economy. To save money at the expense of this school is, in large measure, to render ineffective and comparatively useless the millions which the city expends in houses, equipments, and teachers, for the other schools of Boston. A wise economy must make such provision for the Normal School as will enable it to do its best work, and thus furnish to the schools of the city teachers of the highest qualifications.

Very respectfully yours,

LARKIN DUNTON,
Head-Master of the Normal School.

STATISTICS

FOR THE

HALF-YEAR ENDING JANUARY 31, 1895.

SUMMARY.
January 31, 1895.

GENERAL SCHOOLS.	No. Schools.	NO. OF REGULAR TEACHERS.			Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
		Male.	Female.	Total.					
Normal	1	2	7	9	192	185	7	96.3	182
Latin and High . . .	11	65	64	129	3,996	3,815	181	95.5	3,944
Grammar	55	111	609	720	33,714	30,903	2,811	91.6	33,502
Primary	510	. . .	510	510	26,971	23,423	3,548	87.0	26,970
Kindergartens . . .	43	. . .	99	99	2,781	2,070	711	74.0	2,889
Totals	620	178	1,289	1,467	67,654	60,396	7,258	89.3	67,487

SPECIAL SCHOOLS.	No. Schools.	No. of Regular Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Horace Mann	1	12	101	90	11	89.0	101
Spectacle Island	1	1	18	15	3	83.3	20
Evening High	1	40	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Central . . . . .	. . . . .	. . . . .	849	624	225	73.5	. . . . .
Charlestown* . . . . .	. . . . .	. . . . .	257	184	73	71.6	. . . . .
East Boston* . . . . .	. . . . .	. . . . .	87	63	24	72.4	. . . . .
Evening Elementary	16	144	3,041	1,939	1,102	63.7	. . . . .
Evening Drawing	5	27	586	505	81	86.2	. . . . .
Totals	24	224	4,939	3,420	1,519	. . . . .	. . . . .

* In session three nights a week: Monday, Wednesday, and Friday.

SPECIAL TEACHERS.

Not included in the two preceding tables.

	Men.	Women.	Total.
Drawing: Director and Assistant	2	0	2
Physical Training: Director and Assistant	2	0	2
Modern Languages: Director and Assistants	4	0	4
Kindergartens: Director	0	1	1
Kindergartening: Normal School	0	2	2
Music: Instructor and Assistant Instructors	5	4	9
Military Drill: Instructor	1	0	1
Chemistry: Assistant, Girls' High School	0	1	1
Chemistry: Laboratory Assistant, Girls' High School	0	1	1
Chemistry: Laboratory Assistant, Roxbury High School	1	0	1
Vocal and Physical Culture: Instructor, Girls' High School, Vocal and Physical Culture: Instructor, Girls' Latin School and East Boston High School	0	1	1
Sewing: Instructors	0	33	33
Cooking: Principal and Instructors	0	13	13
Manual Training: Principal and Instructors	4	8	12
Totals	19	65	84

NORMAL AND HIGH SCHOOLS.

Semi-Annual Returns to January 31, 1895.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Head-Masters.	Masters.	Junior-Masters.	Sub-Masters.	Asst. Principals.	First Assistants.	Second Assts. Assistants.	Instructors.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.										
Normal	0	192	192	0	185	185	7	96	1	0	1	0	0	2	5	0
Latin	573	0	573	555	0	555	18	97	1	9	8	0	0	0	0	0
Girls' Latin	0	255	255	0	242	242	13	95	0	1	0	0	0	0	8	0
English High	783	0	783	755	0	755	28	96	1	8	15	0	0	0	0	0
Girls' High	0	800	800	0	752	752	48	94	1	1	0	0	1	1	18	0
Roxbury High	168	377	545	163	361	524	21	96	1	2	0	0	0	0	13	0
Dorchester High	98	168	266	94	157	251	15	94	1	1	0	0	0	0	7	0
Charlestown High	50	154	204	48	143	191	13	94	1	1	0	0	0	0	5	0
West Roxbury High	40	125	165	38	118	156	9	95	0	1	1	0	0	0	5	0
Brighton High	35	73	108	33	70	103	5	95	0	1	0	0	0	0	3	0
East Boston High	55	88	143	54	83	137	6	96	0	1	1	0	0	0	3	0
Mechanic Arts High	154	0	154	149	0	149	5	97	1	3	0	0	0	0	4	0
Totals	1,956	2,232	4,188	1,889	2,111	4,000	188	95.5	8	22	32	1	1	3	546	20

NORMAL, LATIN, AND HIGH SCHOOLS, CLASSIFICATIONS AND AGES, JANUARY 31, 1895.

Schools.	First-year class.	Second-year class.	Third-year class.	Fourth-year class.	Fifth-year class.	Sixth-year class.	Out-of-course class.	Whole number at date.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years and over.
Normal	89	61	32	. . . . .	. . . . .	. . . . .	. . . . .	182	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	1	20	43	43	75
Latin	98	76	120	99	55	37	120	605	13	39	73	99	131	131	57	46	9	2	5
Girls' Latin	32	32	47	53	25	18	46	253	1	12	36	50	42	38	40	20	8	5	1
English High	381	169	167	58	. . . . .	. . . . .	. . . . .	775	. . . . .	. . . . .	1	18	86	208	194	158	82	22	6
Girls' High	371	193	118	74	. . . . .	. . . . .	. . . . .	756	. . . . .	. . . . .	4	57	149	219	169	88	54	11	5
Roxbury High	243	122	129	44	. . . . .	. . . . .	. . . . .	538	. . . . .	. . . . .	13	54	91	139	138	73	26	3	1
Dorchester High	114	67	55	20	. . . . .	. . . . .	. . . . .	256	. . . . .	. . . . .	5	21	61	69	52	33	10	5	. . . . .
Charlestown High	91	55	44	22	. . . . .	. . . . .	. . . . .	212	. . . . .	. . . . .	1	15	54	49	50	33	7	2	1
West Roxbury High	73	38	44	7	. . . . .	. . . . .	. . . . .	162	. . . . .	. . . . .	. . . . .	6	31	40	43	27	12	2	1
Brighton High	52	31	18	. . . . .	. . . . .	. . . . .	. . . . .	101	. . . . .	. . . . .	3	11	23	37	14	9	2	2	. . . . .
East Boston High	75	32	32	. . . . .	. . . . .	. . . . .	. . . . .	139	. . . . .	. . . . .	1	21	27	31	32	18	7	2	. . . . .
Mechanic Arts High	59	88	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	147	. . . . .	. . . . .	1	4	14	52	49	21	5	1	. . . . .
Totals	1,678	964	806	377	80	55	166	4,126	14	51	138	356	709	1,013	839	546	265	100	95

NORMAL AND HIGH SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, January 31, 1895.

SCHOOLS.	No. of Reg. Teachers.	Average No. of Pupils.	Average No. of Pupils to a Regular Teacher.
Normal	8	192	24.0
Latin	17	573	33.7
Girls' Latin	8	255	31.9
English High	23	783	34.0
Girls' High	21	800	38.1
Roxbury High	15	545	36.3
Dorchester High	8	266	33.3
Charlestown High	6	204	34.0
West Roxbury High	6	165	27.5
Brighton High	3	108	36.0
East Boston High	4	143	35.8
Mechanic Arts High	7	154	22.0
Totals	126	4,188	33.2

ADMISSIONS, SEPTEMBER, 1894.

NORMAL SCHOOL.

SCHOOLS.	Number Admitted.	Average Age.	
		Years.	Months.
Girls' High School	46	19	4
Roxbury High School'	12	19	2
From other sources	34	20	10
Charlestown High School	6	19	11
Totals	98	19	9

High School Graduates, Fourth-year class, June, 1894; Boys, 5; Girls, 75.

LATIN AND HIGH SCHOOLS.

SCHOOLS.	Admitted.		From Grammar Schools.	From other Sources.	Totals.	Average Age.	
	Boys.	Girls.				Years.	Mos.
Latin	213	.....	163	50	213	13	9
Girls' Latin .....	.....	77	66	11	77	13	6
English High	425	.....	378	47	425	15	3
Girls' High .....	.....	423	374	49	423	15	8
Roxbury High	72	151	223	30	253	15	4
Dorchester High	42	71	113	16	129	15	8
Charlestown High	21	68	89	8	97	15	1
West Roxbury High	16	55	71	5	76	15	4
Brighton High	12	44	56	10	66	15	9
East Boston High	33	41	74	8	82	15	7
Mechanic Arts High	62	.....	62	8	70	15	6
Totals	896	930	1,669	242	1,911	15	2

GRAMMAR SCHOOLS.

Semi-Annual Returns to January 31, 1895.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Adams	213	187	400	196	172	368	32	92	1	1	1	1	6
Agassiz	520	. . .	520	491	. . .	491	29	94	1	1	1	1	8
Bennett	240	258	498	229	240	469	29	94	1	2	1	. .	7
Bigelow	781	. . .	781	725	. . .	725	56	93	1	2	1	2	10
Bowditch . . . . .	. . .	506	506	. . .	468	468	38	93	1	. .	2	1	7
Bowdoin . . . . .	. . .	441	441	. . .	385	385	56	87	1	. .	2	1	7
Brimmer	594	. . .	594	536	. . .	536	58	90	1	2	1	1	7
Bunker Hill	271	237	508	249	217	466	42	92	1	1	2	2	8
Chapman	338	326	664	310	294	604	60	91	1	1	2	2	7
Charles Sumner	411	391	802	375	354	729	73	91	1	1	2	2	9
Comins	308	313	621	287	282	569	52	92	1	1	2	1	8
Dearborn	419	292	711	387	262	649	62	91	1	1	2	2	8
Dillaway . . . . .	. . .	686	686	. . .	621	621	65	91	1	. .	2	3	7
Dudley	653	. . .	653	612	. . .	612	41	94	1	2	1	1	9
Dwight	667	. . .	667	614	. . .	614	53	91	1	2	1	1	9
Edward Everett	345	370	715	315	332	647	68	90	1	1	2	2	9
Elliot	1,057	. . .	1,057	930	. . .	930	127	88	1	3	1	1	18
Emerson	452	380	832	417	346	763	69	92	1	1	2	2	11
Everett . . . . .	. . .	719	719	. . .	646	646	73	90	1	. .	2	3	9
Franklin . . . . .	. . .	647	647	. . .	594	594	53	91	1	. .	2	3	8
Frothingham	329	316	645	300	289	589	56	91	1	1	2	2	7
Gaston . . . . .	. . .	741	741	. . .	666	666	75	90	1	. .	2	3	9
George Putnam	192	222	414	181	204	385	29	93	1	1	1	1	5
Gibson	224	213	437	210	197	407	30	93	1	1	1	1	5
Hancock . . . . .	. . .	786	786	. . .	714	714	72	91	1	. .	2	2	12
Harris	189	195	384	176	176	352	32	92	1	1	2	. .	6
Harvard	313	329	642	289	302	591	51	92	1	1	2	2	6

GRAMMAR SCHOOLS. — *Concluded.*

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Henry L. Pierce	346	343	689	330	318	648	41	94	1	1	2	2	8
Hugh O'Brien	489	342	831	462	317	779	52	94	1	1	2	2	10
Hyde		616	616		567	567	49	92	1		2	3	7
John A. Andrew	398	377	770	364	343	707	63	92	1	1	2	1	9
Lawrence	735		735	699		699	36	95	1	2	1	1	11
Lewis	368	377	745	347	351	698	47	93	1	1	2	1	10
Lincoln	579		579	526		526	53	91	1	2	1	1	7
Lowell	469	429	898	435	389	824	74	92	1	1	2	2	11
Lyman	326	188	514	304	176	480	34	93	1	1	2	2	6
Martin	210	171	381	196	157	353	28	93	1	1	1	1	5
Mather	384	359	743	349	319	668	75	90	1	1	2	2	10
Minot	161	158	319	153	149	302	17	95	1		1	1	5
Norcross		648	648		592	592	56	91	1		2	3	9
Phillips	956		956	869		869	87	91	1	3	1	1	13
Prescott	223	225	448	209	206	415	33	93	1	1	1	1	6
Prince	215	302	517	198	278	476	41	92	1	1	1	1	7
Quincy	535		535	468		468	67	88	1	2	1	1	7
Rice	496	39	535	461	37	498	37	93	1	2	2	6	2
Robert G. Shaw	150	135	285	138	125	263	22	92		1	2		5
Sherwin	545		545	509		509	36	93	1	2	1	1	6
Shurtleff		649	649		576	576	73	89	1		2	3	8
Stoughton	130	170	300	121	155	276	24	92	1		1		5
Thomas N. Hart	487		487	454		454	33	93	1	1	1	1	6
Tileston	97	98	195	90	91	181	14	93		1		1	3
Warren	327	333	660	304	312	616	44	93	1	1	2	2	8
Washington Allston	406	430	836	370	394	764	72	91	1	1	2	3	11
Wells		583	583		522	522	61	90	1		2	2	8
Wlthrop		644	644		583	583	61	91	1		2	4	8
Totals	17,543	16,171	33,714	16,185	14,718	30,903	2,811	92.5	53	55	87	92	433

GRAMMAR SCHOOLS.
Number of Pupils in each Class, Whole Number, and Ages, January 31, 1895.

SCHOOLS.	First Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Sixth Class.	Ungraded Class.	Whole number.	Under eight years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years.	Fourteen years.	Fifteen years.	Sixteen years.	Seventeen years.	Eighteen years and over.
Adams	31	50	51	92	98	53	27	397	. . .	10	30	52	68	77	73	48	33	5	1	. . .
Agassiz	41	51	78	125	113	105	. . .	513	. . .	12	44	89	78	82	94	59	33	18	3	1
Bennett	44	72	83	100	95	96	. . .	490	1	10	44	70	76	83	78	63	54	11	. . .	. . .
Bigelow	96	87	157	110	163	160	. . .	773	. . .	21	59	106	136	148	143	117	29	11	3	. . .
Bowditch	43	71	92	104	89	79	33	511	. . .	13	38	68	84	96	74	83	39	8	7	1
Bowdoin	34	32	88	49	85	104	41	433	. . .	9	33	53	72	74	82	52	31	19	5	3
Brimmer	35	83	92	96	100	145	43	594	. . .	8	52	92	96	117	99	73	39	16	2	. . .
Bunker Hill	45	56	66	83	105	124	18	497	. . .	10	56	77	72	81	94	57	39	10	1	. . .
Chapman	91	107	104	119	125	108	. . .	654	4	23	56	87	92	103	111	84	59	23	11	1
Charles Sumner	78	84	112	151	162	210	. . .	797	. . .	36	83	123	138	145	115	84	55	16	2	. . .
Combs	47	95	100	108	115	122	43	630	. . .	11	56	101	105	108	107	85	44	11	1	1
Dearborn	59	71	100	143	137	166	38	714	1	14	51	87	123	139	157	94	38	9	1	. . .
Dillaway	46	91	110	113	157	163	. . .	680	. . .	20	59	105	110	124	112	75	53	19	2	1
Dudley	62	61	101	108	111	137	63	643	. . .	6	47	54	99	145	131	76	47	31	6	1
Dwight	53	102	108	145	106	105	38	657	2	17	53	90	111	112	95	96	49	28	4	. . .
Edward Everett	75	106	109	157	107	155	. . .	709	. . .	20	61	97	107	118	111	89	75	26	5	. . .
Elliot	43	51	101	109	201	212	322	1,039	11	34	75	143	177	188	188	151	60	9	2	1
Emerson	73	83	122	187	162	165	33	825	. . .	14	61	103	140	144	132	114	69	38	7	3
Everett	80	108	96	144	118	123	31	700	1	7	63	96	122	111	119	95	56	22	5	3
Franklin	46	98	107	104	154	101	34	644	2	8	42	89	108	106	121	94	44	25	3	2
Frothingham	61	61	100	112	129	123	37	623	. . .	24	55	68	79	119	140	86	41	14	2	. . .
Gaston	52	92	100	153	162	164	. . .	723	. . .	21	57	99	112	131	116	101	55	25	6	. . .
George Putnam	37	44	55	75	115	87	. . .	413	. . .	8	29	54	66	84	58	65	37	9	2	1
Gibson	53	55	75	94	78	85	. . .	440	. . .	16	39	63	73	70	71	63	27	12	4	2

Hancock	35	48	112	127	174	242	777	...	22	68	137	129	161	129	73	41	14	2	1
Harris	37	50	52	57	99	34	379	1	1	24	56	72	58	63	67	24	10	3	...
Harvard	56	107	110	107	158	37	631	...	15	40	85	91	119	98	109	56	13	3	2
Henry L. Pierce	84	109	131	136	128	40	711	...	21	72	103	105	111	105	91	62	31	10	...
Hugh O'Brien	97	108	111	172	171	169	...	828	1	12	63	116	140	145	153	114	58	2	1
Hyde	46	95	94	107	110	110	41	603	...	9	39	84	105	115	97	83	43	4	1
John A. Andrew	39	54	104	165	171	180	62	775	1	13	70	137	129	153	135	98	37	8	...
Lawrence	53	98	97	146	155	134	35	718	1	14	51	119	139	167	128	65	30	4	...
Lewis	92	94	128	140	135	163	...	752	...	7	73	93	122	118	135	112	58	22	11
Lincoln	36	56	95	115	112	150	11	575	...	23	52	103	81	101	108	72	21	12	1
Lowell	68	94	160	219	171	147	...	859	2	22	100	140	132	166	126	117	42	11	...
Lyman	44	53	81	105	108	130	...	521	...	5	30	64	89	114	89	79	42	7	1
Martin	41	50	51	95	99	52	...	388	...	3	32	62	65	64	62	64	21	13	2
Mather	86	91	92	122	164	159	26	740	1	22	77	98	106	126	131	90	58	26	5
Minot	40	47	40	52	59	63	...	310	1	2	22	37	44	65	55	44	24	15	1
Norcross	38	58	93	100	221	167	...	677	1	13	70	88	145	127	115	80	27	9	2
Phillips	54	56	165	166	170	172	...	955	...	16	59	116	164	193	175	132	68	25	6
Prescott	50	47	80	86	103	98	...	464	1	12	40	65	67	93	78	64	24	15	4
Prince	73	83	82	100	106	83	...	527	...	9	30	90	85	86	88	53	21	5	2
Quincy	37	47	91	90	99	97	60	521	1	2	32	60	91	98	111	75	39	8	1
Rice	41	55	72	81	102	170	...	521	...	10	38	84	88	92	98	68	28	11	4
Robert G. Shaw	29	37	55	54	58	49	...	282	...	10	35	45	42	41	47	32	20	10	...
Sherwin	44	52	90	110	100	111	33	540	1	11	43	71	89	99	69	86	54	15	1
Shurtleff	61	59	105	198	112	112	...	647	1	20	54	86	87	125	100	100	58	13	...
Stoughton	37	43	40	55	62	...	302	...	2	18	42	53	59	52	37	29	8	2	...
Thomas N. Hart	40	51	103	110	68	107	...	479	...	14	53	66	61	91	88	68	31	6	1
Tleston	12	33	38	41	29	52	...	205	...	5	13	28	37	47	25	32	13	3	1
Warren	59	67	110	107	111	161	28	643	...	27	57	94	104	111	100	72	43	30	4
Washington Allston	100	116	157	158	163	148	...	842	1	19	84	131	126	138	135	117	68	23	4
Wells	38	52	49	106	103	107	131	586	1	19	56	82	94	116	90	77	40	9	2
Winthrop	56	96	93	106	150	144	...	645	...	8	43	86	110	127	124	91	40	11	4
Totals	2,948	3,831	5,115	6,292	6,948	1,753	33,502	37	760	2,781	4,729	5,427	6,131	5,730	4,471	2,353	864	180	39

DISTRIBUTION OF PUPILS IN RESPECT BOTH

CLASSES.		Under 4 years.	4 years.	5 years.	6 years.	7 years.	8 years.	9 years.	
Latin Schools.	All Classes {	Boys . .	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..
	Totals . . . . .	..	..	..	..	..	..	..
High Schools.	Advanced Class . . {	Boys . .	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..
	Third-year Class . . {	Boys . .	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..
	Totals . . . . .	..	..	..	..	..	..	..
Grammar Schools.	First Class {	Boys . .	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..
	Second Class {	Boys . .	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..
	Third Class {	Boys . .	..	..	..	..	..	2
		Girls . .	..	..	..	..	..	2
	Fourth Class {	Boys . .	..	..	..	..	..	43
	Girls . .	..	..	..	..	2	20	
Fifth Class {	Boys . .	..	..	..	..	..	15	261
	Girls . .	..	..	..	..	..	28	296
Sixth Class {	Boys . .	..	..	..	..	11	317	995
	Girls . .	..	..	..	..	14	324	980
Ungraded Class . . {	Boys . .	..	..	..	..	11	42	108
	Girls . .	..	..	..	..	1	32	74
Totals . . . . .	..	..	..	..	37	760	2,781	
Primary Schools.	First Class {	Boys	10	348	1,238	1,133
		Girls	6	397	1,186	1,022
	Second Class {	Boys	10	576	1,623	1,300	584
		Girls	7	525	1,441	1,134	448
	Third Class {	Boys	9	1,770	2,626	1,379	460	112
	Girls . .	..	9	1,433	2,290	1,151	409	128
Totals . . . . .	..	..	18	3,220	6,033	6,339	5,727	3,427
Kinder- gartens.	All Classes {	Boys . .	154	711	514	55	1
		Girls . .	159	704	507	79	5
	Totals	313	1,415	1,021	134	6
Totals by Ages . . . .	..	313	1,433	4,241	6,167	6,382	6,487	6,208

TO AGE AND TO CLASSES, JANUARY 31, 1895.

10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years and over.	Totals by Classes.
.	13	39	73	99	131	131	57	46	16	605
.	1	12	36	50	42	38	40	20	14	253
.	14	51	109	149	173	169	97	66	30	858
.	.	.	.	.	.	1	8	21	45	75
.	.	.	.	.	.	2	34	55	59	150
.	.	.	.	.	1	28	70	105	66	270
.	.	.	.	.	8	59	120	101	49	337
.	.	.	1	7	32	107	131	66	21	365
.	.	.	.	9	74	150	143	39	15	430
.	.	.	9	69	167	240	115	44	7	651
.	.	.	19	122	254	257	120	29	7	808
.	.	.	29	207	536	844	741	460	269	3,086
.	2	45	212	459	443	227	47	8	.	1,443
.	2	26	172	463	487	274	65	16	.	1,505
3	38	225	568	589	317	98	19	3	.	1,860
3	21	213	562	630	379	128	27	8	.	1,971
36	219	683	840	637	237	54	7	.	.	2,715
27	213	638	766	506	198	40	9	1	.	2,400
319	808	933	726	332	102	11	2	2	.	3,278
284	742	895	629	340	82	17	2	1	.	3,014
882	891	775	392	165	37	2	2	.	.	3,422
868	900	643	319	117	19	3	.	.	.	3,193
1,057	676	354	151	41	12	.	.	.	.	3,614
948	575	324	117	41	9	2	.	.	.	3,334
162	197	240	165	101	23	5	.	.	.	1,054
140	143	137	111	50	8	3	.	.	.	699
4,729	5,427	6,131	5,730	4,471	2,353	864	180	39	.	33,502
551	179	53	18	.	.	.	.	.	.	3,530
499	180	67	35	.	.	.	.	.	.	3,392
212	52	20	4	.	.	.	.	.	.	4,381
162	41	16	8	.	.	.	.	.	.	3,782
38	10	4	1	.	.	.	.	.	.	6,409
32	14	7	3	.	.	.	.	.	.	5,476
1,494	476	167	69	.	.	.	.	.	.	26,970
.	.	.	.	.	.	.	.	.	.	1,435
.	.	.	.	.	.	.	.	.	.	1,454
.	.	.	.	.	.	.	.	.	.	2,889
6,223	5,917	6,349	5,937	4,827	3,062	1,877	1,018	565	299	67,305

PRIMARY SCHOOLS.

Semi-annual Returns, to January 31, 1895.

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Adams	6	143	132	275	128	116	244	31	88	241	44	285
Agassiz	4	148	107	255	134	95	229	26	90	210	62	272
Bennett	7	188	162	350	168	136	304	46	87	292	61	353
Bigelow	11	331	246	577	286	204	490	87	85	453	116	569
Bowditch	10	274	269	543	248	236	484	59	89	457	89	546
Bowdoin	8	201	200	401	167	158	325	76	81	330	68	398
Brimmer	7	197	156	353	175	136	311	42	88	279	92	371
Bunker Hill	10	223	188	411	202	170	372	39	91	326	87	413
Chapman	6	224	194	418	188	147	335	83	80	318	62	380
Charles Sumner	12	351	302	653	303	246	549	104	84	533	104	637
Comins	6	157	116	273	141	102	243	30	89	201	72	273
Dearborn	15	448	331	779	389	280	669	110	86	596	190	786
Dillaway	9	248	258	506	226	222	448	58	89	440	88	528
Dudley	13	323	305	628	281	257	538	90	86	448	170	618
Dwight	11	360	394	754	316	335	651	103	86	460	99	559
Edward Everett	10	285	276	561	242	232	474	87	84	443	109	552
Eliot	10	322	199	521	276	175	451	70	86	454	77	531
Emerson	11	334	325	659	292	280	572	87	87	498	146	644
Everett	9	231	248	479	200	203	403	76	84	368	123	491
Franklin	12	308	301	609	273	261	534	75	88	501	137	638
Frothingham	9	245	207	452	212	177	389	63	86	355	53	438
Gaston	8	212	210	422	175	172	347	75	82	315	80	395
George Putnam	6	171	163	334	151	144	295	39	88	237	96	333
Gibson	7	180	190	370	166	166	332	38	90	225	156	381
Hancock	19	512	583	1,095	454	515	969	126	89	908	204	1,112
Harris	6	148	124	272	131	107	238	34	87	202	73	280
Harvard	12	300	307	607	263	267	530	77	87	453	152	605
Henry L. Pierce	7	196	191	387	181	171	352	35	91	326	63	389

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.		Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Average	Per cent.				
Hugh O'Brien .	12	395	276	671	348	233	581	90	87		515	170	685
Hyde	9	217	224	441	194	203	397	44	90		368	96	464
John A. Andrew	12	341	300	641	278	235	513	128	80		476	160	636
Lawrence . . .	17	624	183	807	566	159	725	82	90		653	160	813
Lewis	11	272	273	545	238	232	470	75	86		447	119	566
Lincoln	11	374	228	602	307	178	485	117	81		487	104	591
Lowell	17	430	414	844	379	365	744	100	88		665	172	837
Lyman	9	250	208	458	230	185	415	43	91		347	134	481
Martin	4	126	97	223	107	85	192	31	86		186	46	232
Mather	13	328	319	647	277	258	535	112	83		537	114	651
Minot	3	118	112	230	107	95	202	28	88		185	46	231
Norcross . . .	13	179	419	598	159	374	533	65	89		465	152	617
Phillips	4	148	131	279	139	121	260	19	93		220	60	280
Prescott	8	229	177	406	203	155	358	48	88		318	98	416
Prince	7	165	169	334	148	145	293	41	88		281	83	364
Qulncy	11	411	238	649	362	203	565	84	87		458	190	648
Rice	8	146	140	286	134	129	263	23	92		222	71	293
Robt. G. Shaw .	5	104	92	196	89	77	166	30	85		155	48	203
Sherwin	9	265	254	519	242	231	473	46	91		409	121	530
Shurtleff	7	166	240	406	140	199	339	67	83		328	73	401
Stoughton . . .	5	134	113	247	121	100	221	26	89		194	57	251
Thomas N. Hart	9	316	174	490	271	149	420	70	86		377	99	476
Tileston	2	52	42	94	44	39	83	11	88		76	26	102
Warren	7	183	167	350	164	150	314	36	90		322	45	367
Washington Allston	12	316	289	605	275	250	525	80	87		500	111	611
Wells	18	599	531	1,130	528	461	989	141	88		919	201	1,120
Winthrop	6	144	185	329	123	161	284	45	86		230	97	327
Totals	510	14,292	12,679	26,971	12,541	10,882	23,423	3,548	87.		21,239	5,731	26,970

PRIMARY SCHOOLS.

Number of Pupils in each Class, Whole Number, and Ages, January 31, 1895.

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Adams	79	90	116	285	21	64	77	79	31	10	2	..	1
Agassiz	84	70	118	272	32	52	66	60	36	15	7	1	3
Bennett	73	116	164	353	30	81	99	82	42	13	3	..	3
Bigelow	159	168	242	569	59	131	137	126	62	39	7	5	3
Bowditch . . .	142	181	223	546	50	151	138	118	55	25	5	3	1
Bowdoin	84	140	174	398	40	93	94	103	50	14	4	..	..
Brimmer	88	98	185	371	40	82	74	83	58	23	9	2	..
Bunker Hill . .	116	122	175	413	52	94	94	86	58	23	4	2	..
Chapman	104	104	172	380	61	93	93	71	45	11	4	1	1
Chas. Sumner . .	180	223	234	637	92	140	153	148	77	22	4	..	1
Comins	83	70	120	273	20	72	68	41	41	17	11	2	1
Dearborn	190	240	356	786	55	180	168	193	99	57	22	7	5
Dillaway	124	173	231	528	72	122	134	112	61	22	3	2	..
Dudley	175	171	272	618	71	120	133	124	93	45	19	11	2
Dwight	152	154	253	559	73	121	141	125	69	20	9	1	..
Edward Everett,	141	185	226	552	54	115	143	131	73	21	12	3	..
Eliot	90	143	298	531	76	142	145	91	35	38	4	..	..
Emerson	168	202	274	644	70	141	152	135	93	36	12	4	1
Everett	129	151	211	491	28	97	123	120	72	33	16	1	1
Franklin	134	167	337	638	121	142	127	111	81	37	15	3	1
Frothingham . .	100	132	206	438	78	113	107	87	32	18	3	..	..
Gaston	128	120	147	395	39	91	90	95	49	20	4	1	6
Geo. Putnam . .	91	103	139	333	43	66	80	48	62	27	4	1	2
Gibson	118	74	189	381	56	89	80	98	40	17	..	1	..
Hancock	185	346	581	1,112	174	277	241	216	116	64	19	4	1
Harris	85	86	109	280	18	49	82	53	44	24	7	2	1
Harvard	145	230	230	605	65	132	125	131	99	40	10	1	2
Henry L. Pierce	131	90	168	389	38	84	119	85	36	20	4	2	1

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen yrs. and over.
Hugh O'Brien,	200	208	277	685	88	142	136	149	88	57	16	7	2
Hyde	109	138	217	464	67	98	110	93	59	19	10	7	1
J. A. Andrew .	182	213	241	636	96	105	151	124	89	45	15	8	3
Lawrence . .	216	206	391	813	102	201	166	184	106	36	15	2	1
Lewis	164	179	223	566	44	118	157	128	76	31	9	3	.
Lincoln . . .	146	157	288	591	91	144	135	117	64	23	8	8	1
Lowell	243	271	323	837	95	175	198	197	105	54	6	5	2
Lyman	102	162	217	481	49	91	106	101	64	46	19	5	.
Martin	54	68	110	232	25	54	67	40	27	12	4	2	1
Mather	163	189	299	651	86	152	170	129	78	26	7	3	.
Minot	56	52	123	231	13	67	59	46	26	13	4	3	.
Norcross . . .	156	184	277	617	77	129	122	137	75	41	19	13	4
Phillips . . .	55	109	116	280	40	71	59	50	36	18	5	1	.
Prescott . . .	104	148	164	416	45	89	99	85	62	25	8	2	1
Prince	100	95	169	364	29	80	81	91	55	20	5	3	.
Quincy	172	253	223	648	63	132	133	130	104	55	25	6	.
Rice	78	114	101	293	24	56	81	61	44	13	8	5	1
Robt. G. Shaw	62	62	79	203	14	41	51	49	30	11	4	2	1
Sherwin	169	144	217	530	93	104	107	105	78	20	9	5	.
Shurtleff . . .	102	113	186	401	68	88	82	90	51	16	6	.	.
Stoughton . .	69	70	112	251	34	60	56	44	39	12	5	.	1
Thos. N. Hart,	156	133	187	476	39	141	105	92	62	25	9	2	1
Tileston . . .	26	29	47	102	17	15	26	18	19	5	2	.	.
Warren	102	98	167	367	51	87	100	84	33	11	1	.	.
Washington Allston . .	146	174	291	611	65	137	144	154	70	22	10	6	3
Wells	228	335	557	1,120	166	253	296	204	126	60	13	2	.
Winthrop . .	84	110	133	327	29	69	59	73	52	18	11	7	9
Totals . .	6,922	8,163	11,885	26,970	3,238	6,033	6,339	5,727	3,427	1,494	476	167	69

GRAMMAR SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, January 31, 1895.

SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.	SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.
Adams	9	400	44.4	Hyde	12	616	51.3
Agassiz	11	520	47.3	J. A. Andrew,	13	770	59.2
Bennett	10	498	49.8	Lawrence . . .	15	735	49.0
Bigelow	15	781	52.1	Lewis	14	745	53.2
Bowditch	10	506	50.6	Lincoln	11	579	52.6
Bowdoin	10	441	44.1	Lowell	16	898	56.1
Brimmer	11*	594	54.0	Lyman	11	514	46.7
Bunker Hill	13	508	39.1	Martin	8	381	47.6
Chapman	12*	664	55.3	Mather	15	743	49.5
Chas. Sumner	14	802	57.3	Minot	7	319	45.6
Comins	12	621	51.8	Norcross	14	648	46.3
Dearborn	13*	711	54.7	Phillips	18	956	53.1
Dillaway	12	686	57.2	Prescott	9	448	49.8
Dudley	13	653	50.2	Prince	10	517	51.7
Dwight	13	667	51.3	Quincy	11	535	48.6
Edw. Everett	14	715	51.1	Rice	12	535	44.6
Eliot	23	1,057	46.0	Robt. G. Shaw	7	285	40.7
Emerson	16	832	52.0	Sherwin	10	545	54.5
Everett	14	719	51.4	Shurtleff	13	649	49.9
Franklin	13	647	49.8	Stoughton	6	300	50.0
Frothingham	12*	645	53.8	Thos. N. Hart	9	487	54.1
Gaston	14	741	52.9	Tileston	4*	195	48.8
Geo. Putnam,	8	414	51.8	Warren	13	660	50.8
Gibson	8	437	54.6	Washington Allston	17*	836	49.2
Hancock	16	786	49.1	Wells	12	583	48.6
Harris	9	384	42.7	Winthrop	14	644	46.0
Harvard	11	642	58.4				
H. L. Pierce	13	689	53.0				
Hugh O'Brien	15	831	55.4	Totals	665	33,714	50.7

* One temporary teacher also employed.

PRIMARY SCHOOLS.

Number of Pupils to a Teacher, January 31, 1895.

DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.	DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.
Adams	6	275	45.8	Hyde	9	441	49.0
Agassiz	4	255	63.8	J. A. Andrew...	12	641	53.4
Bennett	7	350	50.0	Lawrence	17*	807	47.5
Bigelow	11	577	52.5	Lewis	11	545	49.5
Bowditch	10	543	54.3	Lincoln	11	602	54.7
Bowdoin	8	401	50.1	Lowell	17	844	49.6
Brimmer	7	353	50.4	Lyman	9	458	50.9
Bunker Hill...	10	411	41.1	Martin	4	223	55.8
Chapman	6	418	69.7	Mather	13	647	49.8
Charles Sumner,	12	653	54.4	Minot	3†	230	76.7
Comins	6	273	45.5	Norcross.....	13	598	46.0
Dearborn	15	779	51.9	Phillips	4	279	69.8
Dillaway	9	506	56.2	Prescott	8	406	50.8
Dudley.....	13	628	48.3	Prince	7	334	47.7
Dwight	11	754	68.5	Quincy	11	649	59.0
Edward Everett,	10	561	56.1	Rice.. ..	8	286	35.8
Eliot	10	521	52.1	Robert G. Shaw	5	196	39.2
Emerson.....	11	659	59.9	Sherwin	9*	519	57.7
Everett	9	479	53.2	Shurtleff.....	7	406	58.0
Franklin.....	*12	609	50.8	Stoughton.....	5	247	49.4
Frothingham...	9	452	50.2	Thos. N. Hart..	9	490	54.4
Gaston	8	422	52.8	Tileston	2	94	47.0
George Putnam,	6	334	55.7	Warren.....	7	350	50.0
Gibson.....	7	370	52.9	Washington All-			
Hancock.....	19	1,095	57.6	ston	12	605	50.4
Harris	6	272	45.3	Wells	18	1,130	62.8
Harvard	12	607	50.6	Winthrop	6	329	54.8
Henry L. Pierce	7	387	55.3				
Hugh O'Brien..	12	671	55.9	Totals	510	26,971	52.9

* One temporary teacher also employed.

† Two temporary teachers also employed.

PRIMARY SCHOOLS.

Number of Pupils promoted to Grammar Schools for the five months ending January 31, 1895.

DISTRICTS.	Boys.	Girls.	Total.	DISTRICTS.	Boys.	Girls.	Total.
Adams	36	35	71	Hugh O'Brien	49	44	93
Agassiz	32	26	58	Hyde	65	73	138
Bennett	30	54	84	John A. Andrew	77	105	182
Bigelow	60	62	122	Lawrence	90	29	119
Bowditch	69	70	139	Lewis	63	85	148
Bowdoin ..	42	107	149	Lincoln	65	17	82
Brimmer ..	33	21	54	Lowell	129	111	240
Bunker Hill	59	40	99	Lyman	56	40	96
Chapman	52	58	110	Martin	30	15	45
Charles Sumner	79	88	167	Mather	84	85	169
Comins	33	39	72	Minot	16	32	48
Dearborn	112	78	190	Norcross	30	78	108
Dillaway	46	59	105	Phillips	18	35	53
Dudley	82	67	149	Prescott	48	45	93
Dwight	70	68	138	Prince	47	45	92
Edward Everett	60	72	132	Quincy	40	24	64
Eliot	45	29	74	Rice	58	40	98
Emerson	87	73	160	Robert G. Shaw	22	21	43
Everett	87	86	173	Sherwin	47	52	99
Franklin	67	76	143	Shurtleff	26	27	53
Frothingham	56	51	107	Stoughton	25	22	47
Gaston	42	77	119	Thomas N. Hart	100	39	139
George Putnam	37	34	71	Tileston	9	8	17
Gibson	55	49	104	Warren	43	60	103
Hancock	70	86	156	Washington Allston.	76	59	135
Harris	43	40	83	Wells	101	89	190
Harvard	67	64	131	Winthrop .....	.....	30	30
Henry L. Pierce	67	72	139	Totals	3032	2,991	6,023

GRAMMAR SCHOOLS.

Number of Diploma Scholars, June, 1894. Number of these admitted to High and Latin Schools, September, 1894.

SCHOOLS.	DIPLOMAS.			Admitted to High and Latin Schools.	SCHOOLS.	DIPLOMAS.			Admitted to High and Latin Schools.
	Boys.	Girls.	Total.			Boys.	Girls.	Total.	
Adams	11	12	23	8	Hyde.....	49	49	21	
Agassiz	37	...	37	18	J. A. Andrew.	10	32	16	
Bennett	28	51	79	53	Lawrence.....	88	...	33	
Bigelow	49	...	49	22	Lewis	39	59	96	
Bowditch.....	...	37	37	26	Lincoln	39	...	22	
Bowdoin .....	...	31	31	20	Lowell	21	31	33
Brimmer	36	...	36	22	Lyman	30	14	19	
Bunker Hill ...	22	24	46	20	Martin	15	17	16	
Chapman.....	18	31	49	29	Mather	31	39	41	
Chas. Sumner .	30	40	70	30	Minot	11	10	15	
Comins	22	25	47	24	Norcross ....	...	34	17
Dearborn	17	24	41	20	Phillips	41	...	29	
Dillaway .....	...	49	49	38	Prescott	16	37	30
Dudley	45	...	45	29	Prince	28	48	57	
Dwight	51	...	51	43	Quincy	36	...	14	
Edward Everett	27	31	58	48	Rice	41	...	29	
Eliot.....	43	...	43	27	Robt. G. Shaw	10	14	14	
Emerson	25	23	48	33	Sherwin	42	...	22	
Everett . ....	...	76	76	54	Shurtleff .....	...	58	1
Franklin .....	...	38	38	22	Stoughton ...	14	16	43
Frothingham .	18	26	44	27	Thos. N. Hart	35	...	14	
Gaston.....	...	45	45	23	Tileston	2	7	7	
George Putnam	7	15	22	17	Warren	19	34	31	
Gibson	18	24	42	32	Washington				
Hancock .....	...	28	28	10	Allston.....	20	34	40
Harris	18	24	42	32	Wells .....	...	31	17
Harvard.....	26	20	46	18	Winthrop.....	...	58	20	
Henry L. Pierce,	49	36	85	70					
Hugh O'Brien .	35	36	71	52	Totals.....	1220	1368	2588	1,564

KINDERGARTENS.

Semi-annual Returns to January 31, 1895.

DISTRICTS.	Teachers.	Average whole number.			Average Attendance.			Average absence.		Per cent. of attendance.	Age under 5 years.	Age 5 and over.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Average	Per cent.				
Adams	2	31	25	56	23	18	41	15	73	22	29	51	
Agassiz	1	11	9	20	8	7	15	5	75	21	12	33	
Bennett	1	25	29	54	13	18	31	23	57	36	22	58	
Bowditch	4	47	66	113	37	48	85	28	75	55	62	117	
Bowdoin	2	32	25	57	23	16	39	18	70	50	16	66	
Brimmer	2	35	31	66	27	24	51	15	77	53	9	62	
Bunker Hill	2	29	19	48	22	13	35	13	73	35	18	53	
Chapman	2	37	29	66	26	20	46	20	70	47	18	65	
Comins	5	53	76	129	44	60	104	25	81	73	87	160	
Dearborn	2	28	31	59	21	21	42	17	71	27	30	57	
Dillaway	4	51	57	108	40	46	86	22	80	75	46	121	
Dwight	3	52	58	110	39	42	81	29	74	57	39	96	
Eliot	4	69	53	122	59	44	103	19	84	82	48	130	
Emerson	2	34	31	65	25	22	47	18	72	25	40	65	
Everett	2	21	28	49	14	17	31	18	63	11	44	55	
Franklin	2	17	29	46	11	20	31	15	68	34	13	47	
Geo. Putnam	2	25	21	46	20	16	36	10	78	27	15	42	
Hancock	6	67	102	169	54	80	134	35	80	135	38	176	
Harvard	2	26	27	53	19	19	38	15	72	37	10	47	
H. L. Pierce	2	27	21	48	22	16	38	10	80	27	23	50	
Hugh O'Brien	2	32	19	51	20	11	31	20	62	29	28	57	
Hyde	2	17	29	46	15	25	40	6	87	23	27	50	
J. A. Andrew	2	26	27	53	19	20	39	14	74	33	27	60	
Lawrence	3	61	33	94	42	19	61	33	65	48	42	90	
Lewis	2	28	24	52	21	18	39	13	75	42	10	52	
Lincoln	1	17	10	27	11	7	18	9	67	32	4	36	
Lyman	2	33	21	54	26	14	40	14	74	35	33	68	
Martin	2	27	27	54	20	19	39	15	72	35	16	51	
Mather	2	27	28	55	19	17	36	19	65	33	23	56	
Minot	2	25	26	51	17	19	36	15	71	23	15	38	
Phillips	2	24	35	59	21	30	51	8	86	56	4	60	
Prescott	2	28	28	56	23	22	45	11	80	25	29	54	

KINDERGARTENS. — *Concluded.**Semi-annual Returns to January 31, 1895.*

DISTRICTS.	Teachers.	Average whole number.			Average attendance.			Average absence.	Per cent. of attendance.	Age, under 5 years.	Age, 5 and over.	Whole number at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Prince	2	24	22	46	20	18	38	8	83	37	25	62
Quincy	2	36	30	66	25	22	47	19	71	45	23	68
Rice	2	20	26	46	16	21	37	9	80	27	23	50
Robert G. Shaw	1	15	25	40	12	18	30	10	75	19	23	42
Sherwin	2	23	30	55	18	22	40	15	73	30	22	52
Shurtleff	2	29	29	58	23	22	45	13	78	41	21	62
Stoughton	2	28	29	57	23	23	46	11	81	28	24	52
Thos. N. Hart	2	29	30	59	20	20	40	19	65	37	15	52
Washington Allston	2	26	24	50	17	16	33	17	66	23	30	53
Wells	4	58	63	121	43	45	88	33	73	58	60	118
Chas. Sumner	2	22	25	47	17	20	37	10	79	37	18	55
Totals	99	1,374	1,407	2,781	1,035	1,035	2,070	711	74	1,728	1,161	2,889

SEMI-ANNUAL STATISTICS

OF THE

BOSTON PUBLIC SCHOOLS,

JUNE, 1895.

SCHOOL CENSUS. — *May, 1895.*

Number of children in Boston between the ages of 5 and 15	77,152
Number reported as attending public schools	58,543
“ “ private schools	11,405

Whole number of different pupils registered in the public schools during the year 1894-95: Boys, 39,085; girls, 36,696; total, 75,781.

EXPENDITURES. — *1894-95.*

Salaries of instructors	\$1,531,630	15
“ officers	58,970	00
“ janitors	118,336	49
Fuel, gas, and water	77,291	91
Supplies and incidentals:		
Books	\$39,351	43
Printing	4,980	39
Stationery and drawing materials	14,709	66
Miscellaneous items	39,410	59
		98,452 07
School-house repairs, etc.	214,252	47
Expended from the appropriation	\$2,098,933	09
“ income of Gibson Fund	856	76
Total expenditure	\$2,099,789	85
School-houses and lots	397,983	62
Total expenditures	\$2,497,773	47

INCOME.

School Committee	\$38,629	35
Total income	38,629	35
Net expenditures for public schools	\$2,459,144	12

Summary. — June 30, 1895.

GENERAL SCHOOLS.	No. Schools.	NO. OF REGULAR TEACHERS.			Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
		Male.	Female.	Total.					
Normal	1	2	7	9	174	165	9	95.0	180
Latin and High . . .	11	66	63	129	3,695	3,463	232	94.0	3,532
Grammar	55	111	613	724	32,960	29,882	3,078	91.0	31,960
Primary	510	. . .	510	510	26,741	22,968	3,773	86.0	26,776
Kindergartens . . .	44	. . .	99	99	3,031	2,207	824	73.0	3,123
Totals	621	179	1,292	1,471	66,601	58,685	7,916	88.0	65,571

SPECIAL SCHOOLS.	No. Schools.	No. of Regular Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Horace Mann	1	12	105	92	13	88.0	106
Spectacle Island	1	1	17	11	6	65.0	16
Evening High . . . . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Central	1	22	1,919	906	1,013	47.0	. . . .
Charlestown	1	7	219	163	56	74.0	. . . .
East Boston	1	3	87	65	22	75.0	. . . .
Evening Elementary	16	139	2,790	1,800	990	65.0	. . . .
Evening Drawing	5	27	530	454	76	86.0	. . . .
Totals	26	211	5,667	3,491	2,176	62.0	. . . .

SPECIAL TEACHERS.

Not included in the two preceding tables.

	Men.	Women.	Total.
Drawing: Director and Assistant	2		2
Physical Training: Director and Assistant	2		2
Modern Languages: Director and Assistants	4		4
Kindergartens: Director		1	1
Kindergartening: Normal School		2	2
Music: Instructor and Assistant Instructors	5	4	9
Military Drill: Instructor	1		1
Chemistry: Assistant, Girls' High School		1	1
Chemistry: Laboratory Assistant, Girls' High School		1	1
Chemistry: Laboratory Assistant, Roxbury High School	1		1
Vocal and Physical Culture: Instructor, Girls' High School,		1	1
Vocal and Physical Culture: Instructor, Girls' Latin School and East Boston High School		1	1
Sewing: Instructors		33	33
Cooking: Principal and Instructors		13	13
Manual Training: Principal and Instructors	6	8	14
Totals	21	65	86

NORMAL AND HIGH SCHOOLS.

Semi-Annual Returns to June, 1895.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence, Per cent. of Attendance.	Head-Masters.	Junior-Masters.	Sub-Masters.	Assl. Principals.	First Assistants.	Second Asss.	Assistants.	Instructors.	
	Boys.	Girls.	Total.	Boys.	Girls.	Total.										
Normal		174	174		165	165	9	95	1		1		2	5		
Latin	529		529	508		508	21	96	1	9	8					
Girls' Latin		244	244		222	222	22	91	1						8	
English High	735		735	697		697	38	94	1	8	15					
Girls' High		718	718		660	660	58	92	1	1		1	1		18	
Roxbury High	161	349	510	152	324	476	34	93	1	1	1				13	
Dorchester High	90	155	245	85	145	230	15	94	1		1				7	
Charlestown High	48	143	191	45	131	176	15	91	1		1				5	
West Roxbury High	37	116	153	35	109	144	9	94		1	1				5	
Brighton High	30	69	99	28	64	92	7	93		1					3	
East Boston High	53	81	134	51	76	127	7	95		1	1				3	
Mechanic Arts High	137		137	131		131	6	96	1		3				4	
Totals	1,820	2,049	3,869	1,732	1,896	3,628	241	94	8	23	31	1	1	3	562	4

EVENING SCHOOLS.

October, 1894 — March, 1895.

SCHOOLS.	Number of Sessions.	Whole No. Registered.	Average No. Belonging.	AVERAGE ATTENDANCE.			Av. No. Teachers, including Principal.	Av. No. Pupils to a Teacher, exc. Principal, per Evening.
				Males.	Females.	Total.		
High	117	2,306	1,919	508	398	906	22	41
High, Ch'n Branch . . .	67	520	219	97	66	163	7	23
High, E.B. Branch . . .	68	147	87	46	19	65	3	22
Bigelow School, S.B. . .	107	488	252	104	62	166	12	14
Brighton School	62	147	53	31	4	35	3	12
Charles Sumner School,	67	126	70	37	11	48	3	16
Comins School, Rox. . .	107	406	196	97	36	133	14	9
Dearborn School, Rox. .	107	456	161	75	22	97	9	11
Eliot School	107	445	197	106	35	141	11	13
Franklin School	107	620	425	162	147	309	21	15
Hancock School	107	527	335	95	57	152	10	15
Lincoln School, S.B. . .	107	163	101	44	32	76	6	13
Lyman School, E.B. . . .	107	412	159	62	31	93	7	13
Phillips School	107	214	102	47	14	61	4	15
Quincy School	107	495	152	71	39	110	8	14
Sherwin School, Rox. . .	107	173	89	45	15	60	5	12
Warren School, Ch'n . .	107	392	195	80	35	115	9	13
Warrenton Street	61	156	61	20	18	38	4	9
Wells School	107	580	242	95	71	166	13	13
Totals	1,833	8,773	5,015	1,822	1,112	2,934	171	17.

EVENING DRAWING SCHOOLS.

SCHOOLS.	Number of Sessions.	Whole No. Registered.	Average No. Belonging.	AVERAGE ATTENDANCE.			Av. No. Teachers, including Principal.	Av. No. Pupils to a Teacher, exc. Principal.
				Males.	Females.	Total.		
Charlestown	65	196	120	79	29	108	7	15
East Boston	65	127	85	57	15	72	4	18
Roxbury	65	162	79	60	11	71	4	18
Tennyson Street	65	275	149	127	1	128	7	18
Warren Avenue	65	132	97	44	31	75	5	15
Totals	325	892	530	367	87	454	27	17

NORMAL, LATIN, AND HIGH SCHOOLS, CLASSIFICATIONS AND AGES, JUNE 30, 1895.

Schools.	First-year class.	Second-year class.	Third-year class.	Fourth-year class.	Fifth-year class.	Sixth-year class.	Out-of-course class.	Whole number at date.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years and over.
Normal	86	63	31	..	..	..	..	180	..	..	..	..	..	..	..	11	37	41	91
Latin	86	67	94	85	47	36	98	513	7	23	55	84	109	100	73	45	12	2	3
Girls' Latin	29	28	45	52	22	18	37	231	1	5	22	41	40	36	39	31	7	8	1
English High	163	152	341	44	..	..	..	700	..	..	5	44	143	207	159	105	27	7	3
Girls' High	321	171	113	71	..	..	..	676	..	..	1	26	101	187	174	99	63	19	6
Roxbury High	209	110	122	36	..	..	..	477	..	..	2	27	66	111	131	90	41	8	1
Dorchester High	101	60	50	17	..	..	..	228	..	..	2	14	52	61	50	32	11	3	3
Charlestown High	70	52	34	21	..	..	..	177	..	..	..	10	28	41	53	28	11	5	1
West Roxbury High	80	43	46	10	..	..	..	179	..	..	3	13	37	50	52	13	10	1	..
Brighton High	51	28	17	..	..	..	..	96	..	..	..	7	21	36	18	11	2	..	1
East Boston High	68	29	31	..	..	..	..	128	..	..	..	10	25	30	28	24	9	2	..
Mechanic Arts High	48	79	..	..	..	..	..	127	..	..	..	3	6	33	47	29	8	1	..
Totals	1,312	882	924	336	69	54	135	3,712	8	28	90	279	628	892	824	518	238	97	110

NORMAL AND HIGH SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, June 30, 1895.

SCHOOLS.	No. of Reg. Teachers.	Average No. of Pupils.	Average No. of Pupils to a Regular Teacher.
Normal	8	174	21.7
Latin	17	529	31.1
Girls' Latin	9	244	27.1
English High	23	735	31.9
Girls' High	21	718	35.6
Roxbury High	15	510	34.0
Dorchester High	8	245	30.6
Charlestown High	6	191	31.8
West Roxbury High	6	153	25.5
Brighton High	3	99	33.0
East Boston High	4	134	33.5
Mechanic Arts High	7	137	19.5
Totals	127	3,869	30.4

Graduates, June, 1895.

SCHOOLS.	Regular Course.	Four Years' Course.	Totals.
Latin	35	.....	35
Girls' Latin	18	.....	18
English High	138	14	152
Girls' High	107	68	175
Roxbury High	116	34	150
Dorchester High	49	9	58
Charlestown High	35	21	56
West Roxbury High	37	4	41
Brighton High	15	.....	15
East Boston High	29	.....	29
Mechanic Arts High .....	.....	.....	.....
Totals	579	150	729

GRAMMAR SCHOOLS.

Semi-annual Returns to June 30, 1895.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Adams	214	179	393	191	162	353	40	90	1	1	1	1	6
Agassiz	500	. . .	500	468	. . .	468	32	94	1	1	1	1	8
Bennett	229	259	488	220	245	465	23	95	1	2	1	1	6
Bigelow	794	. . .	794	739	. . .	739	55	93	1	2	1	2	11
Bowditch . . . . .	. . .	498	498	. . .	448	448	50	90	1	. .	2	1	7
Bowdoin . . . . .	. . .	418	418	. . .	355	355	63	85	1	. .	2	1	7
Brimmer	592	. . .	592	527	. . .	527	65	89	1	2	1	1	8
Bunker Hill	261	229	490	240	209	440	41	92	1	1	2	2	8
Chapman	323	316	639	294	277	571	68	89	1	1	2	2	7
Charles Sumner	394	376	770	357	334	691	79	90	1	1	2	2	9
Comins	308	277	585	279	246	525	60	90	1	1	2	1	8
Dearborn	405	284	689	371	257	628	61	91	1	1	2	2	8
Dillaway . . . . .	. . .	662	662	. . .	590	590	72	89	1	. .	2	3	7
Dudley	614	. . .	614	570	. . .	570	44	93	1	2	1	1	9
Dwight	631	. . .	631	579	. . .	579	52	92	1	2	1	1	9
Edward Everett	335	361	696	304	321	625	71	90	1	1	2	2	9
Eliot	1,012	. . .	1,012	907	. . .	907	105	90	1	3	1	1	18
Emerson	440	373	813	393	336	729	84	90	1	1	2	2	11
Everett . . . . .	. . .	688	688	. . .	610	610	78	89	1	. .	2	3	9
Franklin . . . . .	. . .	617	617	. . .	552	552	65	89	1	. .	2	3	7
Frothingham	325	307	632	296	281	577	55	91	1	1	2	2	7
Gaston . . . . .	. . .	711	711	. . .	642	642	69	90	1	. .	2	3	9
George Putnam	191	219	410	176	197	373	37	91	1	1	1	1	5
Gibson	218	225	443	204	206	410	33	93	1	1	1	1	5
Hancock . . . . .	. . .	753	753	. . .	670	670	83	90	1	. .	2	2	11
Harris	180	186	366	169	171	340	26	93	1	1	2	. .	6
Harvard	307	324	631	282	296	578	53	92	1	1	2	2	7

GRAMMAR SCHOOLS. — *Concluded.*

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Henry L. Pierce	347	350	697	325	316	641	56	92	1	1	2	2	8
Hugh O'Brien	482	323	805	450	296	746	59	93	1	1	2	3	9
Hyde		562	562		511	511	51	91	1		2	3	7
John A. Andrew	375	361	736	346	321	667	69	92	1	1	2	2	9
Lawrence	778		778	733		733	45	94	1	2	1	1	12
Lewis	363	381	744	340	349	689	55	93	1	1	2	2	9
Lincoln	565		565	507		507	58	90	1	2	1	1	7
Lowell	434	408	842	401	368	769	73	91	1	1	2	2	11
Lyman	343	210	553	310	188	498	55	90	1	1	2	2	7
Martin	211	171	382	190	154	344	38	90	1	1	1	1	5
Mather	377	348	725	344	307	651	74	90	1	1	2	2	10
Minot	151	149	300	141	139	280	20	93	1		1	1	5
Norcross		644	644		586	586	58	91	1		2	3	9
Phillips	914		914	806		806	108	88	1	3	1	1	13
Prescott	217	211	428	200	191	391	37	91	1	1	1	1	6
Prince	209	285	494	195	263	458	36	93	1	1	1	1	7
Quincy	565		565	475		475	90	84	1	2	1	1	7
Rice	484	40	524	442	37	479	45	91	1	2	1	6	2
Robert G. Shaw	153	140	293	140	124	264	29	90		1	2		5
Sherwin	516		516	480		480	36	93	1	2	1	1	6
Shurtleff		676	676		601	601	75	89	1		2	3	8
Stoughton	127	166	293	117	147	264	29	90	1		1		5
Thomas N. Hart	482		482	448		448	34	93	1	1	1	1	6
Tileston	103	102	205	94	92	186	19	91		1		1	3
Warren	311	313	624	289	293	582	42	93	1	1	2	2	8
Washington Allston	398	428	826	362	388	750	76	91	1	1	2	3	12
Wells		566	566		497	497	69	88	1		2	2	8
Winthrop		686	686		608	608	78	89	1		2	4	8
Totals	17,178	15,782	32,960	15,701	14,181	29,882	3,078	91	53	55	86	96	434

GRAMMAR SCHOOLS.

Number of Pupils in each Class, whole Number, and Ages, June 30, 1895.

SCHOOLS.	First Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Sixth Class.	Ungraded Class.	Whole number.	Under eight years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years.	Fourteen years.	Fifteen years.	Sixteen years.	Seventeen years.	Eighteen years and over.
Adams	32	47	46	86	87	53	30	381	. . . . .	4	26	43	60	83	60	60	60	33	11	1
Agassiz	38	45	67	113	108	102	. . .	473	. . . . .	3	24	73	77	83	85	64	43	13	7	1
Bennett	41	66	85	93	97	98	. . .	480	. . . . .	6	31	59	68	87	79	68	57	22	3	. . .
Bigelow	91	100	155	100	158	183	. . .	767	. . . . .	21	57	112	133	137	139	96	54	17	1	. . .
Bowditch	39	71	85	102	84	81	28	490	. . . . .	6	28	56	77	95	74	74	58	14	6	2
Bowdoin	33	30	78	34	88	91	40	394	1	5	22	56	64	62	77	43	34	19	8	3
Brimmer	33	82	93	93	99	126	36	564	. . . . .	10	32	86	91	108	101	79	36	19	2	. . .
Bunker Hill	44	52	61	73	97	118	24	469	. . . . .	4	42	56	81	74	90	63	41	17	1	. . .
Chapman	90	106	99	115	116	105	. . .	631	2	14	40	69	96	108	103	85	58	41	12	3
Charles Sumner	75	74	94	146	151	204	. . .	744	. . . . .	13	61	99	140	115	131	87	65	28	5	. . .
Comus	43	84	94	103	111	116	35	586	. . . . .	4	30	87	89	117	108	85	46	18	2	. . .
Dearborn	59	65	86	129	128	166	34	667	. . . . .	5	35	70	114	124	143	100	57	15	4	. . .
Dillaway	44	77	95	113	153	159	. . .	641	. . . . .	3	43	76	116	120	115	76	65	22	3	2
Dudley	64	55	85	94	105	132	58	593	. . . . .	4	28	45	88	130	127	78	38	39	14	2
Dwight	49	92	93	136	98	93	34	595	. . . . .	11	41	71	87	107	102	82	56	30	9	. . .
Edward Everett	73	101	102	147	104	149	. . .	676	. . . . .	10	45	87	110	107	114	87	67	38	9	2
Elliot	43	44	100	110	201	204	323	1,025	5	34	73	137	181	183	195	145	62	7	3	. . .
Emerson	72	79	107	176	157	162	32	785	. . . . .	3	30	90	131	145	137	107	86	41	10	5
Everett	77	96	97	138	100	121	30	659	. . . . .	6	41	73	110	109	99	100	71	31	13	6
Franklin	44	92	93	86	147	100	31	593	1	1	29	69	94	113	98	102	48	30	6	2
Frothingham	66	58	92	103	128	133	30	610	. . . . .	20	48	91	91	107	102	75	46	25	5	. . .
Gaston	52	88	97	150	153	162	. . .	702	. . . . .	9	46	88	110	115	129	94	73	29	9	. . .
George Putnam	37	46	53	70	104	88	. . .	398	. . . . .	4	26	46	63	73	69	61	34	18	3	1
Gibson	47	54	75	87	77	97	. . .	437	. . . . .	5	29	74	64	74	70	61	44	10	10	3

Hancock	35	37	45	101	122	167	210	717	. . .	12	45	115	133	142	146	71	35	15	2	1
Harris	37	47	48	78	54	93	. . .	357	. . .	1	12	47	72	51	65	54	37	10	6	2
Harvard	56	45	96	100	151	107	41	596	. . .	9	25	80	90	112	92	104	55	20	8	1
Henry L. Pterce	83	80	102	119	129	134	40	687	. . .	6	58	106	98	103	105	96	73	28	14	. . .
Hugh O'Brien	92	99	102	156	164	170	. . .	783	. . .	5	37	105	142	147	140	45	51	25	6	. . .
Hyde	46	74	71	84	93	101	34	503	. . .	4	22	66	80	96	96	67	42	26	3	1
John A. Andrew	38	52	89	146	164	179	64	732	. . .	7	50	118	117	153	132	89	50	11	4	1
Lawrence	53	85	92	142	189	172	38	741	. . .	24	78	120	128	157	111	77	32	14	. . .	. . .
Lewis	92	87	116	150	110	159	. . .	714	. . .	1	40	87	108	115	132	111	71	35	13	1
Lincoln	34	54	90	94	107	145	12	536	. . .	6	44	78	101	85	96	80	31	12	3	. . .
Lowell	60	81	206	154	170	182	. . .	823	. . .	10	70	138	138	148	142	101	56	19	1	. . .
Lyman	40	49	68	89	104	139	37	526	5	10	18	73	82	98	95	84	45	13	3	. . .
Martin	32	52	43	88	96	50	. . .	361	. . .	1	23	55	59	63	61	55	31	12	. . .	1
Mather	84	84	91	106	161	139	25	710	. . .	9	58	91	112	94	115	108	66	37	18	2
Minot	38	44	45	52	58	61	. . .	298	. . .	1	11	40	35	54	58	20	16	4	1	. . .
Norcross	40	61	106	101	180	188	. . .	676	. . .	21	60	82	113	123	113	99	47	14	4	. . .
Phillips	49	50	140	145	151	168	169	872	. . .	10	40	94	156	175	174	119	69	25	9	1
Prescott	48	43	72	85	99	91	. . .	438	. . .	4	24	65	58	88	78	60	34	21	5	1
Prince	72	79	72	100	98	79	. . .	500	. . .	3	27	63	73	92	79	74	55	23	8	3
Quincy	36	46	87	101	102	101	55	528	2	7	32	63	81	117	94	70	42	16	2	2
Rice	38	51	71	73	94	176	. . .	503	. . .	5	28	85	73	79	89	85	31	19	9	. . .
Robert G. Shaw	29	34	53	53	59	58	. . .	286	1	5	31	47	43	49	39	39	22	9	1	. . .
Sherwin	40	45	79	100	92	106	30	492	. . .	6	30	54	80	94	95	68	46	17	2	. . .
Shurtleff	60	56	94	185	110	161	. . .	666	1	21	65	88	87	107	112	89	61	31	2	2
Stoughton	35	40	45	53	57	58	. . .	288	. . .	3	11	39	43	54	53	44	29	10	2	. . .
Thomas N. Hart	40	53	108	111	57	117	. . .	486	. . .	9	28	63	78	81	90	77	42	15	3	. . .
Tilston	12	30	40	38	32	50	. . .	202	. . .	2	8	25	32	40	36	28	20	7	2	2
Warren	51	67	90	91	98	150	29	576	2	7	51	75	95	93	98	75	43	24	11	2
Washington Allston	100	107	130	147	155	145	. . .	804	. . .	9	55	117	123	121	128	130	61	50	7	3
Wells	32	46	44	92	98	105	120	537	. . .	12	39	73	77	117	99	62	36	19	2	1
Winthrop	56	97	92	104	152	161	. . .	662	1	16	49	91	110	121	119	87	46	14	4	4
Totals	2,844	3,579	4,761	5,835	6,327	6,945	1,669	31,960	21	451	2,076	4,256	5,152	5,749	5,625	4,428	2,680	1,161	297	64

DISTRIBUTION OF PUPILS IN RESPECT BOTH

CLASSES.		Under 4 years.	4 years.	5 years.	6 years.	7 years.	8 years.	9 years.	
Latin Schools.	All Classes. . . .	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	. .
	Totals . . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
High Schools.	Advanced Class	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	. .
	Third-year Class	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	. .
	Second-year Class	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	. .
	First-year Class	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	. .
	Totals . . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Grammar Schools.	First Class . .	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	. .
	Second Class . .	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	. .
	Third Class . .	Boys . .	. .	. .	. .	. .	. .	. .
		Girls . .	. .	. .	. .	. .	. .	1
	Fourth Class . .	Boys . .	. .	. .	. .	. .	. .	9
		Girls . .	. .	. .	. .	. .	. .	9
	Fifth Class . .	Boys . .	. .	. .	. .	. .	. .	7
		Girls . .	. .	. .	. .	. .	. .	14
	Sixth Class . .	Boys . .	. .	. .	. .	. .	3	176
		Girls . .	. .	. .	. .	. .	5	183
Ungraded Class	Boys . .	. .	. .	. .	. .	8	49	
	Girls . .	. .	. .	. .	. .	5	22	
	Totals . . . .	. . . .	. . . .	. . . .	. . . .	21	451	
Primary Schools.	First Class . .	Boys . .	. .	. .	. .	9	164	960
		Girls . .	. .	. .	. .	2	153	994
	Second Class . .	Boys . .	. .	. .	8	340	1,344	1,559
		Girls . .	. .	. .	3	239	1,247	1,334
	Third Class . .	Boys . .	. .	10	1,141	2,553	1,714	670
		Girls . .	. .	8	918	2,233	1,475	535
		Totals . . . .	. . . .	18	2,070	5,376	6,097	6,052
	All Classes . .	Boys . .	99	530	735	169	8	. .	
		Girls . .	103	607	710	149	13	. .	
		Totals	202	1,137	1,445	318	21	. .	
	Totals by Ages		202	1,155	3,515	5,694	6,139	6,503	6,224

TO AGE AND TO CLASSES, JUNE 1895.

10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years and over.	Totals by Classes.
.	7	23	55	84	109	100	73	45	17	513
.	1	5	22	41	40	36	39	31	16	231
.	8	28	77	125	149	136	112	76	33	744
.	.	.	.	.	.	2	9	25	23	59
.	.	.	.	.	.	1	17	49	73	140
.	.	.	5	40	119	144	70	44	17	439
.	.	.	.	.	8	33	110	90	74	315
.	.	.	1	6	51	98	118	54	7	335
.	.	.	.	2	30	135	138	65	19	389
.	.	.	2	33	76	99	97	72	23	402
.	.	.	5	73	195	244	153	32	7	709
.	.	.	13	154	479	756	712	431	243	2,788
.	.	22	141	372	429	322	87	12	.	1,385
.	.	10	84	360	487	361	123	34	.	1,459
1	16	164	431	585	382	119	28	2	.	1,727
	8	97	485	589	460	167	34	11	.	1,852
14	128	535	783	676	291	63	13	1	.	2,504
10	122	492	715	569	274	66	5	3	.	2,257
198	638	940	758	355	124	16	1	.	.	3,039
156	599	834	716	350	105	22	4	1	.	2,796
686	954	761	487	195	33	5	2	.	.	3,269
690	917	722	385	135	34	5	.	.	.	3,058
1,138	799	419	175	58	12	1	.	.	.	3,617
1,067	659	387	189	45	6	6	.	.	.	3,328
174	192	228	167	92	29	5	.	.	.	1,031
122	120	138	109	47	14	3	.	.	.	638
4,256	5,152	5,749	5,625	4,428	2,680	1,161	297	64	.	31,960
738	268	64	40	.	.	.	.	.	.	3,507
687	232	96	32	.	.	.	.	.	.	3,336
271	76	24	5	.	.	.	.	.	.	4,385
238	61	22	8	.	.	.	.	.	.	3,799
54	11	4	3	.	.	.	.	.	.	6,335
54	17	5	5	.	.	.	.	.	.	5,414
2,042	665	215	93	.	.	.	.	.	.	26,776
.	.	.	.	.	.	.	.	.	.	1,541
.	.	.	.	.	.	.	.	.	.	1,582
.	.	.	.	.	.	.	.	.	.	3,123
6,298	5,825	5,992	5,808	4,707	3,308	2,053	1,121	571	276	65,391

GRAMMAR SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, June 1895.

SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.	SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.
Adams	9	393	44	Hyde	12	562	47
Agassiz	11	500	45	J. A. Andrew,	14	736	53
Bennett	10	488	49	Lawrence . . .	16	778	49
Bigelow	16	794	50	Lewis	14	744	53
Bowditch	10	498	50	Lincoln	11	565	51
Bowdoin	10	418	42	Lowell	16	842	53
Brimmer	12	592	49	Lyman	12	553	46
Bunker Hill..	13	490	38	Martin	8	382	48
Chapman	12	639	53	Mather	15	725	48
Chas. Sumner	14	770	55	Minot	7	300	43
Comins	12	585	49	Norcross	14	644	46
Dearborn	13	689	53	Phillips	18	914	51
Dillaway	12	662	55	Prescott	9	428	48
Dudley	13	614	47	Prince	10	494	49
Dwight	13	631	49	Quincy	11	565	51
Edw. Everett,	14	696	50	Rice	11	524	48
Eliot	23	1,012	44	Robt. G. Shaw	7	293	42
Emerson	16	813	51	Sherwin	10	516	52
Everett	14	688	49	Shurtleff	13	676	52
Franklin	12	617	51	Stoughton . . .	6	293	49
Frothingham	12	632	53	Thos. N. Hart	9	482	54
Gaston	14	711	51	Tileston	4	205	51
Geo. Putnam,	8	410	51	Warren	13	624	48
Gibson	8	443	55	Washington Allston,	18	826	46
Hancock	15	753	50	Wells	12	566	47
Harris	9	366	41	Winthrop	14	686	49
Harvard	12	631	53				
H. L. Pierce,	13	697	53				
Hugh O'Brien	15	805	54	Totals	669	32,960	49

GRAMMAR SCHOOLS.

Graduates, June, 1895.

SCHOOLS.	Boys.	Girls.	Total.	SCHOOLS.	Boys.	Girls.	Total.
Adams	18	14	32	Hyde .....	.....	46	46
Agassiz	38	.....	38	J. A. Andrew,	19	19	38
Bennett	14	27	41	Lawrence	53	.....	53
Bigelow	78	.....	78	Lewis	45	45	90
Bowditch .....	.....	39	39	Lincoln	34	.....	34
Bowdoin .....	.....	33	33	Lowell	26	34	60
Brimmer	34	.....	34	Lyman	25	16	41
Bunker Hill	22	22	44	Martin	12	19	31
Chapman	46	42	88	Mather	38	44	82
Chas. Sumner ..	32	35	67	Minot	23	15	38
Comins	19	24	43	Norcross .....	.....	33	33
Dearborn	25	35	60	Phillips	45	.....	45
Dillaway .....	.....	44	44	Prescott	24	25	49
Dudley	64	.....	64	Prince	24	48	72
Dwight	47	.....	47	Quincy	34	.....	34
Edward Everett,	31	42	73	Rice	36	.....	36
Eliot	40	.....	40	Robt. G. Shaw,	16	13	29
Emerson	35	36	71	Sherwin	40	.....	40
Everett .....	.....	77	77	Shurtleff .....	.....	60	60
Franklin .....	.....	44	44	Stoughton	10	25	35
Frothingham ..	29	37	66	Thos. N. Hart,	40	.....	40
Gaston .....	.....	52	52	Tileston	5	7	12
George Putnam,	17	20	37	Warren	21	29	50
Gibson	19	29	48	Washington	.....	.....	.....
Hancock .....	.....	33	33	Allston	39	56	95
Harris	18	16	34	Wells .....	.....	30	30
Harvard	26	30	56	Winthrop .....	.....	55	55
Henry L. Pierce,	35	49	84				
Hugh O'Brien..	44	41	85	Totals	1,340	1,440	2,780

PRIMARY SCHOOLS.

Semi-annual Returns, to June 30, 1895.

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 Years.	Over 8 Years.	Whole No. at Date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Adams	5	153	135	288	139	120	259	29	90	147	141	288
Agassiz	4	155	110	265	139	96	235	30	89	123	139	262
Bennett	7	194	165	359	182	147	329	30	91	195	184	379
Bigelow	11	319	232	551	283	201	484	67	88	320	238	558
Bowditch	10	270	265	535	235	224	459	76	86	266	260	526
Bowdoin	8	184	184	368	148	145	293	75	80	196	199	395
Brimmer	7	190	154	344	165	132	297	47	87	168	166	334
Bunker Hill	10	234	183	417	213	162	375	42	90	203	216	419
Chapman	7	216	181	397	176	147	323	74	81	217	168	385
Charles Sumner	12	353	298	651	300	247	547	104	84	343	319	662
Comins	6	155	111	266	134	97	231	35	87	130	128	258
Dearborn	15	460	350	810	410	294	704	106	87	369	468	837
Dillaway	9	269	279	548	232	232	464	84	85	279	242	521
Dudley	13	332	313	645	287	259	546	99	85	285	345	630
Dwight	10	268	279	547	229	232	461	86	84	263	277	540
Edward Everett	10	278	272	550	241	224	465	85	85	266	272	538
Elliot	10	333	200	533	281	170	451	82	84	310	225	535
Emerson	11	342	318	660	301	271	572	88	86	315	354	669
Everett	9	249	252	501	207	201	408	93	81	188	305	493
Franklin	12	319	313	632	259	251	510	122	81	357	279	636
Frothingham	9	203	197	400	177	173	350	50	88	269	198	467
Gaston	8	189	198	387	167	172	339	48	87	189	189	378
George Putnam	6	172	158	330	155	140	295	35	90	153	171	324
Gibson	7	177	195	372	160	167	327	45	87	207	186	393
Hancock	20	509	590	1,099	448	518	966	133	88	591	486	1,077
Harris	6	155	127	282	135	110	245	37	87	134	148	282
Harvard	12	315	309	624	278	270	548	76	88	303	322	625
Henry L. Pierce	7	196	190	386	177	168	345	41	89	219	178	397

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 Years.	Over 8 Years.	Whole No. at Date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Hugh O'Brien .	12	407	284	691	352	234	586	105	85	318	372	690
Hyde	9	209	214	423	173	183	356	67	84	208	200	408
John A. Andrew,	12	332	297	629	286	247	533	96	85	282	336	618
Lawrence . . .	17	555	178	733	492	156	648	85	89	447	304	751
Lewis	10	284	279	563	244	236	480	83	85	250	314	564
Lincoln	11	370	233	603	318	188	506	97	84	324	295	619
Lowell	16	431	406	837	379	344	723	114	86	395	430	825
Lyman	9	260	221	481	234	198	432	49	90	226	244	470
Martin	4	165	135	300	135	112	247	53	82	129	108	237
Mather	13	342	318	660	299	266	565	95	85	354	323	677
Minot	3	120	110	230	107	94	201	29	87	116	112	228
Norcross	12	175	400	575	161	361	522	53	91	334	276	610
Phillips	5	146	129	275	126	112	238	37	87	143	135	278
Prescott	8	234	180	414	206	154	360	54	87	206	219	425
Prince	7	166	173	339	142	142	284	55	84	148	225	373
Quincy	11	388	240	628	326	195	521	107	83	311	264	575
Rice	8	146	145	291	125	122	247	44	85	117	158	275
Robt. G. Shaw .	5	103	89	192	87	70	157	35	82	90	107	197
Sherwin	10	271	254	525	236	226	462	63	88	266	268	534
Shurtleff	7	160	190	350	131	154	285	65	81	185	137	322
Stoughton . . .	5	138	113	251	124	100	224	27	89	130	124	254
Thomas N. Hart,	9	302	181	483	265	154	419	64	87	248	241	489
Tileston	2	73	58	131	66	50	116	15	90	91	82	173
Warren	7	191	172	363	168	145	313	50	86	205	161	366
Washington Allston	12	324	300	624	282	258	540	84	86	322	311	633
Wells	19	593	514	1,107	498	427	925	182	84	555	524	1,079
Winthrop	6	131	165	296	111	139	250	46	85	156	142	298
Totals . . .	510	14,205	536	26,741	12,331	10,637	22,968	3,773	86	13,561	13,215	26,776

PRIMARY SCHOOLS.

Number of Pupils in each Class, whole Number, and Ages, June 30, 1895.

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Adams	77	81	130	288	15	55	77	79	43	13	5	..	1
Agassiz	79	45	138	262	20	46	57	57	51	17	9	3	2
Bennett	78	147	154	379	20	78	97	95	57	26	5	1	..
Bigelow	155	166	237	558	43	121	156	112	78	31	6	9	2
Bowditch . . .	142	184	200	526	31	116	119	117	87	43	8	3	2
Bowdoin . . .	79	129	187	395	26	89	81	109	57	23	7	3	..
Brimmer . . .	90	89	155	334	24	78	66	75	58	26	7	..	..
Bunker Hill . .	114	123	182	419	37	72	94	90	76	34	14	2	..
Chapman . . .	108	102	175	385	46	77	94	80	56	21	7	4	..
Chas. Sumner .	210	197	255	662	70	128	145	149	111	50	6	2	1
Comins	75	66	117	258	13	54	63	54	35	24	9	5	1
Dearborn . . .	197	230	410	837	40	152	177	194	147	79	23	11	9
Dillaway . . .	126	177	218	521	38	118	123	116	80	33	10	3	..
Dudley	167	176	287	630	42	104	139	129	119	57	21	12	7
Dwight	146	150	244	540	29	103	131	137	88	37	12	3	..
Edward Everett,	132	179	227	538	21	104	141	123	95	38	12	3	1
Ellot	90	168	277	535	46	139	125	107	52	50	13	3	..
Emerson . . .	175	190	304	669	49	122	144	162	112	54	20	2	4
Everett	126	152	215	493	10	79	99	118	94	59	25	7	2
Franklin	132	207	297	636	104	133	120	121	95	46	13	3	1
Frothingham .	99	149	219	467	65	98	106	111	51	30	6	..	..
Gaston	116	121	141	378	25	72	92	85	58	30	10	2	4
Geo. Putnam .	86	100	138	324	20	59	74	59	62	36	10	2	2
Gibson	114	117	162	393	42	82	83	100	62	21	2	1	..
Hancock . . .	173	325	579	1,077	105	254	232	219	142	78	38	7	2
Harris	82	88	112	282	17	33	84	58	44	30	13	2	1
Harvard	151	220	254	625	52	119	132	125	124	55	13	3	2
Henry L. Pierce,	140	119	138	397	34	71	114	92	46	25	10	4	1

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Hugh O'Brien,	198	198	294	690	46	133	139	159	103	62	37	10	1
Hyde	97	112	199	408	46	91	71	102	54	29	8	4	3
J. A. Andrew,	177	208	233	618	36	102	144	138	105	57	21	12	3
Lawrence . .	205	214	332	751	101	162	184	169	89	31	11	2	2
Lewis	167	171	226	564	17	115	118	149	100	46	15	4	.
Lincoln . . .	146	167	306	619	43	139	142	136	84	49	17	7	2
Lowell	238	264	323	825	39	144	212	183	146	72	21	4	4
Lyman	108	141	221	470	54	68	104	115	71	47	7	2	2
Martin	51	64	122	237	42	39	48	51	33	18	3	2	1
Mather	168	188	321	677	62	141	151	164	104	37	16	1	1
Minot	57	52	119	228	1	49	66	45	39	17	6	4	1
Norcross . . .	145	187	278	610	64	123	147	133	77	40	12	7	7
Phillips . . .	55	107	116	278	21	65	57	58	40	29	6	2	.
Prescott . . .	108	136	181	425	28	88	90	106	71	26	10	5	1
Prince	101	134	138	373	13	62	73	100	72	39	8	5	1
Quincy	144	221	210	575	59	121	131	104	92	44	17	4	3
Rice	91	92	92	275	12	38	67	66	49	25	10	6	2
Robt. G. Shaw,	64	65	68	197	9	37	44	44	37	19	3	3	1
Sherwin	141	181	212	534	53	112	101	117	70	57	19	4	1
Shurtleff . . .	102	95	125	322	32	75	78	67	42	20	6	2	.
Stoughton . .	70	76	108	254	18	58	54	59	40	19	5	1	.
Thos. N. Hart,	152	141	196	489	18	126	104	112	76	37	9	5	2
Tileston . . .	46	51	76	173	28	32	31	46	24	9	3	.	.
Warren	99	99	168	366	26	87	92	97	47	13	4	.	.
Washington Allston . .	139	183	311	633	26	125	171	170	88	27	12	9	5
Wells	234	331	514	1,079	84	219	252	230	169	90	30	5	.
Winthrop . . .	81	109	108	298	26	69	61	59	46	17	10	5	5
Totals . .	6,843	8,184	11,749	26,776	2,088	5,376	6,097	6,052	4,144	2,042	635	15	93

PRIMARY SCHOOLS.

Number of Pupils to a Teacher, June 30, 1895.

DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.	DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.
Adams	5	288	58	Hyde	9	423	47
Agassiz	4	265	66	J. A. Andrew... 12	629	52	
Bennett	7	359	51	Lawrence	17	733	43
Bigelow	11	551	50	Lewis	10	563	56
Bowditch	10	535	54	Lincoln	11	603	55
Bowdoin	8	368	46	Lowell	16	837	52
Brimmer	7	344	49	Lyman	9	481	53
Bunker Hill... 10	417	42	Martin 4	300	75		
Chapman	7	397	57	Mather	13	660	51
Charles Sumner, 10	651	54	Minot	3	230	77	
Comins	6	266	44	Norcross	12	575	48
Dearborn	15	810	54	Phillips	5	275	55
Dillaway	9	548	61	Prescott	8	414	52
Dudley	13	645	50	Prince	7	339	48
Dwight	10	547	55	Quincy	11	628	57
Edward Everett, 10	550	55	Rice.. .. . 8	291	36		
Eliot	10	533	53	Robert G. Shaw, 5	192	38	
Emerson	11	660	60	Sherwin	10	525	53
Everett	9	501	56	Shurtleff	7	350	50
Franklin	12	632	53	Stoughton	5	251	50
Frothingham ... 9	400	44	Thos. N. Hart.. 9	483	54		
Gaston	8	387	48	Tileston	2	131	66
George Putnam, 6	330	55	Warren	7	363	52	
Gibson	7	372	53	Washington All- ston	12	624	50
Hancock	20	1,099	55	Wells	19	1,107	58
Harris	6	282	47	Winthrop	6	296	49
Harvard	12	624	52				
Henry L. Pierce, 7	386	55					
Hugh O'Brien.. 12	691	58					
				Totals	510	26,741	52

KINDERGARTENS.

Semi-annual Returns to June 30, 1895.

DISTRICTS.	Teachers.	Average Number belonging.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Age under 5 Years.	Age 5 and over.	Whole No. at Date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Adams	2	33	25	58	27	16	43	15	74	37	30	67
Agassiz	1	16	16	32	11	12	23	9	72	26	16	42
Bennett	2	25	30	55	18	19	37	18	67	20	37	57
Bowditch	4	52	67	119	39	46	85	34	91	50	71	121
Bowdoin	2	38	34	72	22	22	44	28	61	44	31	75
Brimmer	2	32	28	60	23	21	44	16	73	41	25	66
Bunker Hill	2	37	20	57	27	13	40	17	69	30	29	59
Chapman	2	36	27	63	23	21	44	19	70	40	22	62
Chas. Sumner	2	26	33	59	20	23	43	16	73	25	35	60
Comins	4	51	69	120	40	54	94	26	71	51	66	117
Dearborn	2	32	30	62	25	20	45	17	73	32	31	63
Dillaway	4	56	64	120	41	49	90	30	75	53	60	113
Dudley	1	18	13	31	13	6	19	12	61	22	17	39
Dwight	3	55	58	113	42	42	84	29	74	56	62	118
Eliot	4	67	57	124	58	46	104	20	84	59	67	126
Emerson	2	36	29	65	29	20	49	16	76	30	35	65
Everett	2	28	32	60	18	20	38	22	63	16	41	57
Franklin	2	17	33	50	10	19	29	21	58	38	16	54
Geo. Putnam	2	28	23	51	23	18	41	10	80	22	27	49
Hancock	6	70	109	179	54	79	133	46	74	86	90	176
Harvard	2	28	27	55	21	19	40	15	73	33	27	60
H. L. Pierce	2	33	23	56	28	20	48	8	86	16	44	60
Hugh O'Brien	2	37	24	61	25	14	39	22	64	20	42	62
Hyde	1	18	32	50	15	26	41	9	82	15	36	51
J. A. Andrew	2	31	29	60	24	24	48	12	80	10	45	55
Lawrence	3	60	34	94	39	24	63	31	67	32	69	101
Lewis	1	31	24	55	23	18	41	14	74	33	28	61
Lincoln	2	33	17	50	23	11	34	16	68	24	36	60
Lyman	2	39	31	70	28	21	49	21	70	34	43	77
Martin	2	28	29	57	23	21	44	13	78	50	9	59
Mather	2	34	33	67	25	20	45	22	67	27	46	73
Minot	2	29	34	63	19	22	41	22	65	6	36	42

KINDERGARTENS. — *Concluded.*
Semi-annual Returns to June 30, 1895.

DISTRICTS.	Teachers.	Average Number belonging.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Age, under 5 Years.	Age, 5 and over.	Whole Number at Date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Phillips	2	23	38	61	18	28	46	15	75	16	44	60
Prescott	2	32	29	61	26	22	48	13	79	28	38	66
Prince	2	28	28	56	21	21	42	14	75	26	44	70
Quincy	2	36	31	67	25	21	46	21	69	37	33	70
Rice	2	22	30	52	14	19	33	19	63	15	36	51
Robert G. Shaw,	1	17	26	43	14	19	33	10	77	26	20	46
Sherwin	2	28	30	58	19	22	41	17	71	24	35	59
Shurtleff	2	28	35	63	22	26	48	15	76	27	38	65
Stoughton . . .	2	31	31	62	26	25	51	11	82	31	37	68
Thos. N. Hart . .	2	29	24	53	21	18	39	14	73	23	33	56
Washington Allston	2	24	29	53	17	19	36	17	68	19	33	52
Wells	4	57	57	114	42	40	82	32	72	26	87	113
Totals	99	1,509	1,522	3,031	1,121	1,086	2,207	824	73	1,376	1,747	3,123

ANNUAL SCHOOL FESTIVAL.



1895.

ANNUAL SCHOOL FESTIVAL, 1895.

The Annual School Festival in honor of the graduates of the Boston Public Grammar Schools was held in the Massachusetts Charitable Mechanic Building, Huntington avenue, on the afternoon of Saturday, June 29, 1895, under the direction of the committee of the School Board appointed for the purpose, consisting of Mr. Henry D. Huggan (chairman), Mr. Isaac F. Paul, Mrs. Emily A. Fifield, and Messrs. Samuel H. Wise, and George Z. Adams.

The occasion was honored by the presence of His Excellency the Governor, His Honor the Lieutenant-Governor, His Honor the Mayor of Boston, members of the City Government and School Committee, distinguished officials and citizens, teachers of the public schools, and parents and friends of the graduates.

The bouquets provided for the graduates were arranged in large banks extending the entire width of the stage. The following-named florists furnished the bouquets: James Delay, Norton Brothers, Thomas H. Meade, Galvin Brothers, J. Newman & Sons, William A. Twombly, George Mullen, Mrs. J. W. Rogers, S. J. Coleman, Alexander McCullough, J. E. Nelson, William Edgar.

The Boston Cadet Band, under the direction of Mr. J. Thomas Baldwin, occupied a position at the

left of the stage. Mr. Leonard B. Marshall, one of the Special Instructors of Music in the public schools, served as conductor, and Mr. Samuel W. Cole presided at the organ.

The collations for the committee and pupils were provided by T. D. Cook & Co.

The graduates of the Grammar Schools, nearly three thousand in number, occupied the entire floor of the hall. The graduates of the Normal, Latin, and High Schools were excused from taking part in the exercises, on account of the limited accommodations, but many of them were present as invited guests.

The graduates were marshalled to their places under the direction of Chief Marshal Elias H. Marston, master of the Phillips School.

The exercises opened with the singing of "Old Hundred" by the graduates.

The Chairman of the Festival Committee, Mr. Henry D. Huggan, delivered the opening address.

ADDRESS OF MR. HENRY D. HUGGAN.

Graduates of the Schools of Boston :

Young friends, one and all. I am moved as I never have been before by the vast number of youthful and interesting faces before me.

No grander sight was ever conceived of — no greater inspiration could be given any one. No stronger evidence need be shown of what this city is doing for the education of her boys and girls than the presence on this festival occasion of nearly three thousand graduates of the Grammar Schools of Boston. Every parent in this city to-day, whose boy or girl is in this great audience, is justly proud of you, and interested in you. Every teacher in the city's service whose faithful and earnest work is evidenced by your attendance here is interested in your moral

and intellectual advancement; and all the members of the School Committee of Boston, in whose behalf I welcome you to this Annual School Festival, are satisfied with the work you have performed, and pleased with your success in rounding out your Grammar School course.

I congratulate you, young friends, and bespeak for you continued success and a large measure of happiness wherever your lot may be cast.

I shall not detain you this afternoon with a lengthy address, for I know full well that the speakers that are to follow and the exercises and entertainment later on will prove more interesting than any remarks of mine. You have been reminded, young friends, many times, no doubt, during your school days, of the vast educational advantages and the splendid opportunities there are for your advancement and success. You have been reminded too, of the honor it is, and the prestige it gives every boy and girl to be a graduate of the public schools of Boston. This, young friends, is true. It is the testimony of the educated, thinking, and observing men and women of this city, whose lives are being devoted to the cause of education, and to the uplifting and upbuilding of the moral and intellectual lives of our people. It is the testimony of the experienced and progressive educators of other cities and other States that the Boston public schools are second to none in the country.

These substantial and trustworthy indorsements of the excellence and efficiency of our free common schools are highly gratifying to every friend of education, and clearly shows that the city of Boston is among the foremost cities of this country in her provisions for the care and education of all her children.

So, young graduates, with these facts before you, and in view of the liberal consideration you have received at the hands of this city, may we not hope that you will always strive, in whatever position you may be placed, to conduct yourselves creditably and honorably, and thus prove yourselves worthy sons and daughters of the schools of Boston, and true and loyal citizens of this Commonwealth.

You must remember, however, that it matters little from what schools you have come, or under whose tuition you have been, or

how many advantages you have had unless you resolve to take up life's work with a firm determination to succeed, a strong personal effort to accomplish something, and meet difficulties bravely, and strive to overcome them all, your advantages may count for naught. A philosophic statesman when addressing a class of college students said, "Difficulty is the condition of success. You are to enter into an amicable conflict with difficulty. Whenever you encounter it you are not to turn aside, but resolve upon mastering it, and every successive triumph will inspire you with that confidence in yourselves, that habit of victory which will make future conquests easy."

When we read the history of successful men we find that their success was not due to the fact that they came from any particular country or that they graduated from any particular school, but because they were ambitious, persevering, and self-sacrificing men. They were imbued with a sort of feeling—a spirit of unrest, with a desire to do and accomplish something. They were students of books, observers of men, and interested in affairs. They were thoughtful, earnest men, utilizing all their time to the best possible advantage. They were men of strong conviction, undaunted courage, and indomitable will. They were not baffled by criticism or disapproval, but continued in their own way, fired with determination and encouraged by the hope of success. They, too, met obstacles, but pushed them aside, difficulties they encountered, but persevered until they surmounted them. Right here in the city of Boston we find that a large number of our best citizens—successful men—have come from all over this country and from different parts of the civilized world. Many of them are filling positions of trust and responsibility, and some of them hold positions the highest in the gift of the people. These men, young friends, never had your advantages, they never had the advantages of a free, public school, and yet by honest labor, by persistent effort, they developed and advanced themselves, so that to-day they are important factors in all that pertains to the educational, political, and business life of our city.

So, young friends, there are various avenues open to every one of you, and wider in extent than ever before existed, so that every ambitious boy or girl, by persistent effort and faithful application

to duty may reach the highest positions possible to attain. Go forth, then, young students, with true hearts and honest purposes. Rejoice over your past successes and the victories you have won. Be encouraged by the bright prospects which loom up before you. "Be noble," said Lowell, "and the nobleness that lies in other men, sleeping, but never dead, will rise in majesty to meet thine own."

The CHAIRMAN. — The Commonwealth of Massachusetts to-day, as in the past, stands for and represents that which is for the best interests of her citizens. Of all the educational institutions within her borders none are dearer, more precious, or more sacred to her than the public schools of this city. The head of the Commonwealth is with us to-day. I now have the honor of presenting to you His Excellency Frederic T. Greenhalge, Governor of Massachusetts.

ADDRESS OF HIS EXCELLENCY GOVERNOR GREENHALGE.

Mr. Chairman, Girls and Boys, and Fellow-citizens, who are, and Fellow-citizens to be: I congratulate myself upon being able to be present on this great and significant occasion. I suppose, my young friends, that I have been in this building a score of times, though I should not know how to find my way in or my way out unattended and unguided to-day, upon every conceivable occasion. I have been here on political and business affairs. I have been here at operas and plays and at charitable gatherings and everything of that sort and the great objections advanced against this hall have been: First, that you cannot fill it, and, secondly, that if you do that you cannot be heard in this building, and yet in the name of Education I think we may declare to-day, Mr. Chairman and Mr. Mayor, that this building is filled by the scholars of Boston, and I trust that my voice is audible somewhere in this building.

And what a significant occasion is this which brings here not merely the representatives of the Commonwealth, but the honored chief magistrate of the municipality of Boston; which brings here these men of learning, of judgment, and of wisdom, and which does better still, brings the elements of strength

and beauty, which, united, go to make the strength of the Commonwealth, of the city, and of every town in the Commonwealth!

I congratulate you, my young friends, on this successful termination of your labors. What is education except the ascertaining of the truth, and then the ability to communicate the truth to others? It is your sworn duty as children of the Commonwealth, as children of the city of Boston, not merely to be content with having received the truth; it is your duty to communicate the truth to your fellow-citizens and to the people everywhere, in every station and in every walk of life.

We are fighting out, my young friends, the battle of civil, free government, and that battle is to be fought and determined here; and every young girl, beautiful as she may be, has her duty to perform, beautiful as herself, and every young man, strong as his strength may be, has ambition and a duty not only in regard to his own purposes, he has a duty to the city and to the Commonwealth, and to the whole, broad Republic, and to the whole world where free men and free women exist, or desire to exist.

The Chairman has said that the schools are sending forth into the world four thousand intelligent, cultivated young men and girls to become citizens of this city and Commonwealth. What a force of recruits! What a vast force to contend against ignorance and folly, and bigotry, and selfishness! I look with pride and with hope upon this great gathering, the most inspiring which my eyes have ever dwelt upon in this vast and somewhat shapeless building.

My friends, don't forget the duty which these diplomas confer upon you. You have a work for this Commonwealth to do. In the flag in which you all believe and which we all revere, you have a personal interest. The flag and the school-house, between them, comprise the great principles and interests of free and equal government, of justice, of law, and progress.

If you are false to any principle represented by the white flag of Massachusetts — God bless it! — if you are false to any principle represented by that blood-enshrined ensign of the Republic, the Stars and Stripes, then you are false to the teachings which have been given to you by your instructors here; so, as you go forth.

this grand army of the Commonwealth, four thousand in number, you carry with you the fortunes and the destinies not merely of the city of Boston, not merely of the Commonwealth of Massachusetts, not merely of the Republic of the United States, but the destinies and fortunes of the whole world, and its hopes of progress and prosperity from generation to generation.

My young friends of Boston, I congratulate you upon this successful and auspicious day. Even the sunlight of God seems to come out this moment to shed its benign effulgence upon you and this occasion.

Go forth, therefore, with the desire and purpose of serving yourselves, but to serve yourselves by serving the City, the Commonwealth, the Republic, and the cause of humanity, learning, and education.

The CHAIRMAN. — The City of Boston is proud of her public schools and foster and protect them as the fond mother does her children. In her great system of common-school education large expenditures are required to carry on the work. We are, therefore, fortunate in having at the head of the City Government one who is in sympathy with our free public schools. I take great pleasure in introducing to you His Honor Edwin U. Curtis, Mayor of Boston.

ADDRESS OF HIS HONOR MAYOR CURTIS.

Mr. President, Ladies and Gentlemen, and, as the Governor said, Boys and Girls: I should have hardly dared to say the same. I would rather have said, young ladies and young gentlemen, the city of Boston is proud of its public schools, and I am glad to be here to-day and to congratulate the members of the School Committee for the high standard to which they have brought the public schools of Boston.

I am glad to be here, in behalf of the city of Boston, to thank these gentlemen who have given their time and attention, and who have made many sacrifices for the schools, and to recognize the fact that they have done so without price or compensation, and that the only pay that they receive is the gratification they have to-day, and which they must feel in seeing the result which their labors have produced.

I congratulate the parents who are here to-day, that they are able to be here, and look down upon their children and see in their faces, radiant with youth and innocence, the pleasure which they feel at being here as the graduates of Boston's public schools. And I congratulate you, scholars, that you have reached the first stage in your education, having graduated from the Grammar Schools, and I hope that all who possibly can will continue with their studies and graduate at the High Schools. To those who cannot, I advise, with such time as they can spare, to pursue useful reading and study and help educate themselves to a higher plane.

You, children, have enjoyed many advantages; you have enjoyed that of education which many of your fathers and mothers did not have. You should be glad of that advantage, and of the youthful vigor which you possess; but more than all, that of living in the city of Boston, which I say is one of the best in the United States. You also have a duty to perform. On you rests the honor of the public schools of Boston. As you now go forth into the world, and as you grow, later we must look to you to sustain the public schools. If the question ever comes whether we shall do away with them, it is for you to say, "No! We received our education there, and we will stand for the public schools as long as we live," bearing in mind that the prosperity of this country rests upon the education of the masses. Without this the country would cease to progress. Never forget that the prosperity and safety of this country rests upon its public schools. I suppose, Mr. President, that the real object of this Annual Festival — which I understand has been going on yearly for one hundred years — is to give pleasure to the children, and I will not detain them from receiving these flowers awaiting distribution.

You, children, have now finished your school year. The best wish I can give you is, that your vacation may be a pleasant one, and that you all will return to your homes and the schools with renewed vigor to pursue your studies in the High Schools.

The CHAIRMAN. — You have heard from the Governor of the Commonwealth. I know you will all be pleased to listen to the Lieutenant-Governor. I take great pleasure in presenting to you His Honor Roger Wolcott, Lieutenant-Governor of Massachusetts.

ADDRESS OF HIS HONOR LIEUT.-GOVERNOR
WOLCOTT.

School Children of Boston: I wish that your presiding officer had, as he introduced me, shown the conscience to inform you that until one minute ago I had no idea that I was to be called upon to say even a single word. I knew that His Excellency the Governor was to be present to-day. I was obliged to come late, and no intimation had reached me that I was to give you even a word of congratulation, but as I have just been asked to say a single word, I want to tell you that this seems to me one of the most interesting and beautiful sights that I have seen for a very long time.

You are all just beginning life. That is a great thing. The rest of us are passing along, but you are just beginning in the daylight of the morning. As you pass on into the active business of life, whatever your occupation may be, whatever the future may have in store for you, there is one thing you may be sure of — life is not going to be altogether a bank of flowers (pointing to bank of garlands behind him) to any one of you. It will have its struggles, its anxieties, its disappointments, and its sorrows; but if you keep always your faces steadily forward to the light you may be sure that even if you trip on the way you are still making progress in the path of noble citizenship, of noble manhood, and of noble womanhood.

Now, I am pleased to know that study of American history is receiving more attention in the public schools than used to be the case. I think, however wide our reading in history may be, that to an American there is no history more luminous with aught of faith and loyalty than the pages we recall of the history of this country. From a little beginning we have built here on noble womanhood, on strong and vigorous manhood; we have built up a type of citizens that challenge comparison with any citizenship that the sun shines upon as it whirls around the world. That is the glory of America. It is not our 65,000,000 or 70,000,000; it is not that the flag of America covers a continent from the Atlantic to the Pacific, and from the great lakes to the Gulf of Mexico. It is not because we have greater wealth in this

country to the population than is in any other country on the face of the earth. It is because American manhood and American womanhood are virtuous, loyal, brave, and strong.

That's what rests upon you, children, after this generation passes across the stage and disappears, happy and fortunate, and blest by God if they leave one loyal, one brief page in the history of America that will be as honorable as the part that lies behind them ; but the future all belongs to you. I want you to feel the responsibility of this. I want you to feel that the voices of the past are calling you, that the voice of the future is whispering to you to take your places in the world and build up virtuous homes where ignorance and vice shall never shed their blighting gloom. I want you to feel that the future of Boston, that the future of the Commonwealth of Massachusetts — God save and bless the dear old Commonwealth! — and also, that, in like measure, in due proportion, the future of this great nation of the United States, whose Stars and Stripes we honor and love, that the future of this country rests in some measure upon the children that I see before me to-day.

This is a happy and proud day for you all. The future looks to you now full of sunshine and promise. These bright flowers of June are waiting to be placed in your hands. May you carry forward all through life something of the sunshine of to-day, something of the joy that fills your hearts at this moment, and may the fragrance and bloom of the flowers go also with you through life, connecting in some degree the heat and the dust and the stress of conflict, so that when you reach the end of your pilgrimage you will still bear upon your faces something of the smiles that I now see before me, something of the brightness of your white eyes and pure dresses, symbolizing something of the fragrance and the beauty of the flowers!

The CHAIRMAN. — You will be pleased I know to have address you the honored President of the Boston School Committee. He is deeply interested in the educational welfare of all the boys and girls of this city. It gives me pleasure to present to you Mr. Fred. G. Pettigrove, President of the School Board of Boston.

ADDRESS OF MR. FRED. G. PETTIGROVE.

Mr. Chairman and Children: I did not expect that I should receive any applause whatever, because you have been talked to so much during the past week by the members of the School Board. I suppose you think all the advice has given out. So far as I am concerned it has, and while I cannot remember what I said to the graduates last year, I promise you that my speech like that will be very brief.

There is one single thought in connection with the public schools that I like to dwell upon, and that I like to impress upon the minds of the graduates of the Grammar Schools whenever I have an opportunity; and that is the only thought I shall give you this afternoon. That is the pure and unadulterated democracy — the pure republicanism that is taught in the common schools. This is the typical democracy of the world. Into this constitution we gather the children of every race and from every clime. We mellow the prejudice of centuries, and out of this great mass we make a body of American citizens that, in the language of Lieutenant-Governor Walcott, is making this Republic safe. We can never make this Republic safe unless the common schools all the time teach the doctrine, that no matter what a man's condition is, no matter what his creed is, no matter what his race is, he is the equal of every other man if he obeys the laws of the country, and is a good citizen.

You have heard, graduates, from the Governor of this Commonwealth, the representative of what he believes to be the noblest State in all the Union, without disparaging any other. It is the leader, and it has done more than any other for education.

I am reminded of the words of a former Governor of this Commonwealth, the great War Governor, John Albion Andrew, and I cannot do better in leaving you, this afternoon, than to quote his words. He said, and I want you to carry them away with you: "I know not what record of sin awaits me in the other world, but this I know, that I never was mean enough to despise a man because he was poor, because he was ignorant, or because he was black."

With these words I leave you, and in the name of the School Board I give you greeting, and God bless you!

At the close of the address of the President of the School Board, "America" was sung, after which the graduates marched across the stage, each school being designated by a banner with the name of the school printed thereon. Each graduate received a bouquet from the hand of the Governor or the Mayor.

At the conclusion of the distribution of bouquets a collation was served to the committee and invited guests, and to the graduates.

The doors of the adjoining exhibition hall were thrown open, and the remainder of the afternoon devoted to dancing and promenading.

FRANKLIN MEDALS,
LAWRENCE PRIZES,
AND
DIPLOMAS OF GRADUATION.

1895.



FRANKLIN MEDALS, 1895.

LATIN SCHOOL.

Donald F. Urquhart,
Harry L. Morse,
Robert H. Morrison,
Benjamin P. Merrick,

James M. Gillis,
Fred K. Bryant,
Frank O. White,
Clement R. Lamson.

ENGLISH HIGH SCHOOL.

Harry Linenthal,
Stephen Badlam,
Clinton B. Thurber,
Francis C. Lincoln,
Ernst A. Regestein,
Stanley G. H. Fitch,
Montfort H. Smith,

Walter G. Waitt,
Charles S. McAleer,
Norman S. Hope,
Arthur S. Allen,
Abraham Ginzberg,
Harry B. Thomas,
Louis Nelson.

LAWRENCE PRIZES, 1895.

LATIN SCHOOL.

FOR EXCELLENCE IN CLASSICS. — Donald F. Urquhart, Durant F. Drake, William J. Kelley, Francis T. Leahy, Chester W. Nichols, Raymond G. Clapp, Gerald F. Loughlin, Charles B. Loughhead, Charles S. Stanton, Dennis S. Downes, Frank A. Moulton, Louis H. Reuter, Augustus L. Richards, Chester T. Greenwood, Herbert L. Marshall, James M. Sheridan, Ralph H. Goldthwaite.

FOR EXCELLENCE IN MODERN STUDIES. — Harry L. Morse, Carl S. Oakman, Henry L. Seaver, Robert F. Leavens, Frederick G. Bauer, Mitchell Freeman, Wilbur G. Quincy, Charles E. Jackson, Harry D. Mitchell, Kenneth W. Endres, Henry R. Gardner, Harry H. Ham, Lauriston Ward, Charles H. Bailey, Austin C. Wood, Joseph F. A. O'Neil, Thomas F. Kelley.

FOR EXCELLENCE IN DECLAMATION. — *First Prize* — Donald F. Urquhart, *Second Prizes* — John J. O'Donnell, George W. Fuller. *Third Prizes* — Frank B. Granger, Cornelius J. Lane. *Special Prizes* — Frederic C. Lee, John H. Merrill.

FOR EXCELLENCE IN READING. — *First Prize* — Frederic T. Bauer. *Second Prizes* — Harry L. Morse, Flavel Shurtleff. *Third Prizes* — Frank B. Newton, Donald F. Urquhart.

FOR EXEMPLARY CONDUCT AND PUNCTUALITY. — Henry R. Gardner, Louis H. Reuter, John E. Lynch, Durant F. Drake, Charles B. Loughhead, Lauriston Ward, Chester T. Greenwood, Chester W. Nichols, John D. Williams, Augustus L. Richards, Dennis S. Downes, Frederick G. Bauer, Edward Johnson, Elias Field, Charles H. Bailey, Gerald F. Loughlin, Flavel Shurtleff, Nathaniel B. Dodge, Harry H. Ham, Donald F. Urquhart, Francis T. Leahy, Raymond G. Clapp, Herbert L. Marshall, Albert L. Barry, James S. Bent.

FOR EXEMPLARY CONDUCT AND FIDELITY. — Thomas L. Bramhall, Harry G. Chesley, Osmond J. Billings, Fred. C. Wormelle, David Daly, George A. Barrett, Allan H. Whitman, John J. Burns, Fernald Hutchins, Charles M. Rimbach, George H. McDermott, John E. Lynch, Stanley T. Bush, Robert Valentine, William D. Carleton, William J. Haggerty, Irving E. Jones.

FOR A POEM IN ENGLISH. — *Second Prize* — Howard S. Bennett.

FOR A POETICAL TRANSLATION. — *First Prize* — William J. J. Farrell.

SPECIAL PRIZES FOR ESSAYS ON THE UNITED STATES FLAG. — James M. Gillis, George W. Fuller.

ENGLISH HIGH SCHOOL.

FOR DECLAMATION. — *Special Prizes*. — (Second Class) — L. M. Goulston. (Third Class) — A. Silverman. *First Prize*. — (Second Class) — F. G. Hersey. *Second Prizes*. — (Third Class) — A. I. Rorke, C. S. Pond.

FOR TRANSLATION OF GERMAN AT SIGHT. — *First Prize*. — (First Class) — E. A. Regestein. *Second Prize*. — (First Class) — F. Vorenberg.

FOR SENIOR EXAMINATION IN ALGEBRA. — *First Prize*. — (First Class) — Harry Linenthal.

FOR EXAMINATION IN GEOMETRY. — *First Prize* — (Second Class) — F. P. Wilcox.

FOR DRAWING. — *First Prize*. — (First Class) — F. M. West. *Second Prize*. — (First Class) — A. N. Wakefield.

FOR TRANSLATION OF FRENCH AT SIGHT. — *First Prize*. — (Second Class) — W. A. Moulton. *Second Prize*. — (Second Class) — W. B. Cobb.

FOR JUNIOR EXAMINATION IN ALGEBRA. — *First Prize*. — (Third Class) — H. S. Paul. *Second Prizes*. — (Third Class) — P. H. Linehan, E. Strauss.

FOR EXAMINATION IN PHYSICS. — *First Prize.* — (First Class) — Harry Linenthal.

FOR EXAMINATION IN CHEMISTRY. — *First Prize.* — (First Class) — Stephen Badlam.

FOR DEPARTMENT AND SCHOLARSHIP.

First Class. — S. W. St. Clair, A. J. Plunkett, S. C. Sears, C. H. Jones, Jr., J. P. Fagan, B. Lazarus, W. A. Edson, J. E. McCarthy, W. F. Scanlan, A. M. Pinfield.

Second Class. — Walter S. Heilborn, Milton L. Bernstein, Charles T. Lincoln, Llewellyn L. Cayvan, Harry W. Goldthwaite, Frank P. Wilcox, Arthur Loring, Wilbur A. Jordan, Jr., Hugh D. Montgomery.

Third Class. — Paul H. Linehan, Alexander I. Rorke, Paul C. Shipman, James R. Putnam, Harold S. Paul, Edward M. Hill, Alfred A. Capotosto, Albert B. Fopiano, John L. Dahl, Harry Beale, Grover R. Barney, Albert M. Barlow, Thomas J. Sheehan, Herbert G. Sumner, Ernest Strauss, Eugene P. Cruft, Arthur F. Whitten, Robert Cleaves, Alfred Di Pesa, Robert C. Dickinson, John A. Bent.

FOR DEPARTMENT AND FIDELITY.

First Class. — A. V. Lally, A. T. Granger, H. R. Stearns, C. P. Blinn, Jr., W. L. Collins.

Second Class. — Ralph H. Stearns, George A. Hall, Albert E. Alton, Martin J. Sherry.

Third Class. — Claude L. Allen, John A. Gargan, Israel T. Still, Julius E. Ober, Robert M. Macintosh, Frank Leveroni, Solomon Baker, Julius L. Aronson, Joseph H. Craffey, John B. Martin, Jr., John A. Gault.

DIPLOMAS OF GRADUATION, 1895.

NORMAL SCHOOL.

Gabrielle Abbot,
 Eloise A. Barstow,
 E. Elizabeth Brown,
 Mary L. Brown,
 Lena E. Campbell,
 Mabel L. Chapman,
 Alice C. Chesley,
 Celeste B. Cooper,
 Katherine C. Coveney,
 Marcella C. Coyle,
 Mary A. Cussen,
 Alice E. Dacy,
 Helen L. Dennison,
 Margaret J. Doherty,
 Catherine M. Dolan,
 Mary A. Duston,
 Annie L. Evans,
 Eva C. Fairbrother,
 Theresa B. Finneran,
 Katherine G. Garrity,
 Susan J. Ginn,
 Florence C. Gordon,
 Elsie L. Greene,
 Josephine F. Hannon,
 Blanche F. Harrington,
 Jennie M. Henderson,
 Caroline S. Hoffman,
 Evelyn M. Howe,
 Mary G. Hudson,
 Allie L. Hurd,
 Susie F. Jordan,
 Mary G. Mahar,
 Edna W. Marsh,

Annie T. McCloskey,
 Martha E. Melchert,
 Katharine C. Merrick,
 Ellen A. Miles,
 Frances M. Mooers,
 Mary S. Murphy,
 Gertrude G. O'Brien,
 Jane M. O'Brien,
 Adelaide R. Porter,
 Elizabeth B. Porter,
 Jennie M. Pray,
 Mary V. Prendergast,
 Isabella J. Ray,
 Helen E. Raymond,
 Eva G. Reed,
 Margaret E. Roche,
 Schassa G. Row,
 Leona J. Sheehan,
 Catherine T. Sullivan,
 Margaret E. Sullivan,
 Mary F. Sullivan,
 Agnes G. Tarpey,
 Estelle M. Williams,
 Sarah H. Williams,
 Edith F. Winsor.

PUBLIC LATIN SCHOOL.

George H. Bragdon,
 Thomas L. Bramhall,
 Fred K. Bryant,
 Benjamin T. Creden,
 John T. Cronin,
 Fred W. Dahl,
 Edward P. Davis,

Louis A. De Blois,
 Alexander B. Ewing,
 Francis W. Falvey,
 William J. J. Farrell,
 Henry M. Field,
 George W. Fuller,
 James M. Gillis,
 Frank B. Granger,
 Charles W. Hardy,
 Chauncey W. Hood,
 Irving L. Jameson,
 Clement R. Lamson,
 John W. Lane,
 Joseph E. McDermott,
 Benjamin P. Merrick,
 Raymond Merrill,
 Charles H. Morris,
 Robert H. Morrison,
 Harry L. Morse,
 Frank B. Newton,
 Sidney Peterson,
 James A. Reilly,
 Henry O. Robinson,
 Edmund H. Sears,
 Henry C. Temple,
 Everit B. Terhune,
 Edward Y. A. Toomey,
 Donald F. Urquhart,
 Frank O. White.

GIRLS' LATIN SCHOOL.

Louise Adams,
 Hattie E. Baker,
 Florence C. Breed,
 Marou S. Brown,
 Elizabeth R. Drowne,
 Florence A. Gragg,
 Henriette M. Heinzen,
 Alice E. Hobson,
 Bertha C. Holden,
 Elizabeth H. Hunter,
 Margaret A. Jacks,
 Sophia M. Lee,
 Martha P. Luther,

Annie M. Marey,
 Olive B. Pope,
 Helen I. Tetlow,
 Edith Tomlinson,
 Sarah N. Whitman.

BRIGHTON HIGH SCHOOL.

Boys.

Ernest S. Brown,
 Wilbur G. Cutter,
 Lawrence H. Pierce,
 Samuel R. Randall,
 James M. Waters.

Girls.

Carrie G. Bates,
 Mary E. Ducey,
 L. Maud Haskins,
 Agnes M. Keefe,
 Mabelle E. Lounsbury,
 Bertha N. Meserve,
 M. Blanche Moore,
 Katherine A. Nelligan,
 C. Edna Vollintine,
 Nellie E. White.

CHARLESTOWN HIGH SCHOOL.

FOURTH-YEAR CLASS.

Boys.

Frederick N. Brown,
 Harry A. Hodgdon,
 Horace Johnson.

Girls.

Mabel G. Clem,
 Emma D. Emery,
 Emeline W. Ewell,
 Louise M. FitzGerald,
 Margaret F. Gannon,
 Carrie F. Gilmartin,
 Agnes B. Hanson,

Anna F. Hingston,
 Lucy M. Hobbs,
 Ellen E. McCoy,
 Sarah B. McGlinn,
 Mary E. O'Hare,
 Agnes S. O'Reilly,
 Elizabeth C. Quirk,
 Mary A. Quirk,
 Edith L. Sawyer,
 Janet Sinclair,
 Bessie H. Stark.

THIRD-YEAR CLASS.

Boys.

Charles J. Carter,
 Louis DeWolfe,
 John C. Hurley,
 Moses Klous,
 John W. Long,
 Philip C. McMahon,
 Edward A. Paul,
 Frank W. Ramsey.

Girls.

Ella H. Berry,
 Martha H. Bowker,
 Mary A. Bradford,
 Grace M. Broaders,
 Florence O. Brock,
 Alice T. Chandler,
 Alice M. Clark,
 Theresa A. Dacey,
 Lucy C. Dyer,
 Lillian R. Hichborn,
 Alice G. Hosmer,
 Helen Leavitt,
 Katherine E. Leonard,
 Olive D. Littlefield,
 Bessie C. MacBrine,
 Ella E. MacKeen,
 Mary E. Murphy,
 Ida R. Nickerson,
 Annie T. Nolan,
 Elizabeth R. Phelan,

Mary E. Reardon,
 Helen D. Regan,
 Annie I. Ruston,
 Mary A. Ryan,
 Clara B. Shaw,
 May E. Simonds,
 Mary G. Welch.

DORCHESTER HIGH SCHOOL.

FOURTH-YEAR CLASS.

Boys.

Charles M. Hamburger,
 John H. Rogers,
 Ralph R. Young.

Girls.

Edith F. Brainerd,
 Gertrude Breckenridge,
 Charlotte A. Fraser,
 Mary M. Hoye,
 Lydia D. Johnson,
 Florence G. Willis.

THIRD-YEAR CLASS.

Boys.

John A. Andrew,
 Alfred A. Brown,
 Charles L. Carr,
 Augustus G. Gigger,
 James A. Gillespie,
 Harry M. Gipson,
 Charles H. Hickey,
 William T. Jarvis,
 Howard W. Lang,
 John F. Lynch,
 Arthur C. Macdonald,
 William C. Mair,
 John J. McGrail,
 Walter J. Nisbet,
 Wallace J. Paget,
 Robert C. Polson,
 Everett A. Robinson,
 John J. Scarry,

Homer S. Totman,
Karl H. Weinschenk.

Girls.

Ida M. Barustead,
Esther Blumenthal,
Louisa D. Burbank,
Amy E. Clay,
Anna J. Culgin,
Julia A. Cunningham,
May B. G. Dadmun,
Marion E. Deering,
Mary A. Dwyer,
Leila Fisher,
Alice M. Gore,
Helen P. Graves,
Annie M. Haines,
Clara L. Haynes,
Ida G. Haynes,
Millicent A. Hosley,
Catherina A. Hurney,
Sarah F. Kidney,
Elizabeth B. Lamberton,
Therese C. McDonald,
Anastasia M. Meade,
Mary E. Minihan,
A. Esther Pastene,
Bessie G. Pierce,
Grace M. Plimpton,
Florence A. Stone,
Blanche E. Thayer,
Nellie E. Welsh,
Hannah D. Williams.

EAST BOSTON HIGH SCHOOL.

Boys.

John D. Adams,
Thomas H. Dalton,
Ira M. Huggan,
Loyal L. Jenkins,
Gordon McKay,
Alexander McLaren,
Frederic C. Peterson,
Roy W. Pigeon,
William F. Slade.

Girls.

Blanche D. Bears,
Sarah L. Brown,
Mary G. Cannon,
Florence A. Coan,
Nellie P. Fales,
Eliza D. Graham,
Ella L. Green,
Agnes E. Harvie,
Marion P. Hill,
Margaret F. Keenan,
Mattie L. Kenison,
Blanche L. Libbey,
Ada E. Marshall,
Ethel L. Parker,
Adele J. Pigeon,
Ethel M. Pigeon,
Emma M. Reed,
Alice M. Snow,
Gertrude N. Sullivan,
Emma E. Wellock.

ENGLISH HIGH SCHOOL.

FOURTH-YEAR CLASS.

Richard G. Badger,
Thomas R. Bateman,
George W. Brown,
Harry M. Chamberlain,
George I. Copp,
Edward Dahl,
William G. Hoyt,
John H. Means, Jr.,
Harry S. Mork,
Dudley M. Pray,
Percy E. Rowell,
Robert W. Stauley,
Frank W. Stetson,
Lewis R. Whitaker.

THIRD-YEAR CLASS.

William L. Aldrich,
Frederic J. Allchin,
Arthur S. Allen,
Stephen Badlam,

Thomas W. Bailey,
 Lawrence W. Baker,
 Clifford M. Balkam,
 William F. Barnstead,
 Francis J. Barry,
 Walter S. Batchelder,
 James H. Batcheller,
 William H. Batum,
 Edward S. Bennett,
 Carroll M. Bill,
 Charles P. Blinn, Jr.,
 William S. Bramhall,
 Everett E. Brown,
 Fred M. Burrongs,
 Timothy F. Callahan,
 Lester B. Cardell,
 Arthur A. Chase,
 Ernest E. Clapp,
 Harry W. Clark,
 Fred R. Colburn,
 Walter L. Collins,
 Charles H. Comey,
 Michael F. Cronin,
 Seth H. Cushing,
 John L. Dakin, Jr.,
 Charles H. Dillworth,
 Frank E. Dodge,
 Henry N. Dunbar,
 George H. Eastman,
 Warren A. Edson,
 George W. Emery,
 George P. Emmins,
 Joseph M. Everett,
 Joseph P. Fagan,
 Martin J. Finn,
 Joseph F. Finnegan,
 Irving J. Fisher,
 Stanley G. H. Fitch,
 Willard L. Fitzpatrick,
 Albert F. Foster,
 Charles W. French,
 Daniel J. Geary,
 Abraham Ginzberg,
 Albert S. Gould,

Albert T. Granger,
 George H. Griggs,
 Robert C. Hawkins,
 Frank S. Hayden,
 William Healey,
 Albert E. Heimann,
 Robert Henderson,
 John P. Hinchy,
 Norman S. Hope,
 Charles H. Hughes,
 Winthrop F. Irving,
 Arthur D. Jones,
 Charles H. Jones, Jr.,
 George F. Keenan,
 Albert V. Lally,
 William D. Lane,
 Samuel La Rchette, Jr.,
 Thomas J. Lawler,
 Fred D. Lawley,
 Benjamin Lazarus,
 Samuel L. Leftovith,
 Jasper F. Lentine,
 Francis C. Lincoln,
 Harry Linenthal,
 Royden Loring,
 David A. Lourie,
 Benjamin S. Luther,
 William H. Mahar,
 George W. Mansfield,
 Charles L. McAleer,
 Victor R. McBain,
 Hugh A. McBreen,
 John W. McBrine,
 John E. McCarthy,
 Herbert N. Mitchell,
 Henry P. Moltedo,
 Jeremiah L. Murphy,
 Louis S. Murphy,
 William M. Murphy,
 Russell Musculus,
 Alfred E. Nash,
 William H. Neil,
 Louis Nelson,
 Laurie G. O. Nicholl,

Francis J. Norton.
 Albert J. Nute,
 Michael C. O'Brien.
 Daniel J. O'Connell,
 Andrew L. O'Toole,
 Walter H. Parker,
 Roscoe R. Perry,
 Alfred M. Pinfield,
 Albert J. Plunkett,
 Harold R. Puffer,
 John J. Purtell,
 John J. Radley,
 Ernst A. Regestein,
 William E. Richards,
 Henry L. Rothenberg,
 Samuel W. St. Clair,
 William F. Scanlan,
 Stanley C. Sears,
 Harry Silverman,
 Channing C. Simmons,
 Montfort H. Smith,
 Harry W. Soule,
 Herbert R. Stearns,
 Edmund T. Stewart,
 John M. Stewart,
 Lawrence H. Sturtevant,
 Thomas F. Sullivan,
 Lester E. Taylor,
 Harry E. Teehen,
 Harry B. Thomas,
 Clinton D. Thurber,
 Forrest C. Toward,
 Arthur E. Treadwell,
 Arthur R. Virgin,
 Fred Vorenberg,
 Walter G. Waitt,
 Francis J. Walsh,
 Richard M. Walsh,
 Frederic L. Watson,
 Charles H. Weare, Jr.
 Francis M. West,
 William H. Wheeler,
 William L. White,
 Forrest J. Whitney,

Ralph H. Whitney,
 Ralph C. Wiggin.

GIRLS' HIGH SCHOOL.

FOURTH-YEAR CLASS.

Isabelle Anderson,
 Alvira M. Bartlett,
 F. Eva Bryan,
 Ellen T. Callahan,
 Frances M. Campbell,
 Ellen Carver,
 F. Mabel Cassidy,
 Jennie E. Chellman,
 Viola S. Churchill,
 Annie G. Colbert,
 Ella J. Costello,
 Helen A. Crosbie,
 Mary A. Daly,
 Mary E. Doyle,
 Nannie S. Dran,
 Kathie H. Emery,
 Ella F. Erskine,
 Lilian G. Farmer,
 Annie M. F. Farrell,
 E. Florence Fisher,
 Sallie T. Fletcher,
 N. Isabel Fox,
 Anna C. V. Foy,
 Emily Frazer,
 Mary A. Fruean,
 Mary G. Garrigan,
 Mary C. Gartland,
 Nellie A. Hackett,
 Mary C. Harrington,
 Nellie L. Huff,
 Mary E. Hughes,
 Grace G. Johnson,
 Alice A. Keen,
 Catherine F. Keleher,
 Katharine P. Kelley,
 Alice E. Lawrence,
 Agnes R. Leahy,
 Mary A. Lynch,
 Annie T. Mahar,

Margaret Mais,
 A. Gertrude Malloch,
 Grace H. Mareman,
 Bessie McBride,
 R. Genevieve McMorrow,
 Margaret G. Melia,
 M. Adelaide Moore,
 Mary G. Morton,
 Aliee C. Nichols,
 Elsie M: Paul,
 Margaret M. Ring,
 Katharine L. Roche,
 May A. Rourke,
 Cherrie W. St. Clair,
 Fannie B. Sanderson,
 Mary A. Scully,
 Eleanora A. Smith,
 Sadie M. Spalding,
 Elsie W. Spaulding,
 Addie M. Starrett,
 B. Loretta Sullivan,
 Flora M. Sykes,
 Mande C. Tinkham,
 Martha F. Titus,
 Agnes M. Turnbull,
 Rose Weinberg,
 Katharine C. Weld,
 Katherine F. Wood,
 Alice M. York.

THIRD-YEAR CLASS.

Susan E. Abbot,
 Gertrude W. Appleton,
 Mary O. Baker,
 Corinna Barry,
 Mary W. Bonython,
 Ethel A. Borden,
 Lillian A. Boudrot,
 A. Gertrude Bowker,
 Fanny J. Bradley,
 Alice M. Brady,
 Odie G. Bresnahan,
 Florence L. Brinkerhof,
 Bernice F. Brown,

Grace E. Bullard,
 Elizabeth G. Burke,
 Emma J. Burke,
 Minnie F. Calnan,
 Etta M. Cobb,
 Alice V. Colleton,
 Alice Cornelius,
 Lillian M. Cornelius,
 Lillian E. Cronin,
 Lillian P. Cronon,
 M. Teresa Currie,
 Julia G. Davison,
 Alice E. B. Doekham,
 Mary T. Donely,
 Mary E. Donnelly,
 Margaret E. Duffy,
 Gertrude S. Dunn,
 Mabel T. Elliott,
 Martha Engewald,
 Bertha F. Ernst,
 Anne L. Estabrook,
 Alice M. Fairbrother,
 Ethel M. Fales,
 Margaret A. Feeney,
 Emily F. Fillebrown,
 Laura D. Fisher,
 Josephine M. Fitzgerald,
 Laura G. Fleet,
 Catherine G. Foley,
 Edna Friedman,
 Elizabeth M. Gardiner,
 Veronica L. Gaytons,
 Harriett Gerber,
 Katherine E. Goode,
 Margaret E. Graham,
 Alice M. Hagerty,
 Sara F. Haines,
 A. Harriet M. Haley,
 Edith E. Hall,
 Ellen S. Hartnett,
 Clara M. Hendry,
 Lucy D. Hurley,
 Henrietta F. Johnson,
 Mabel E. Johnson,

Alice S. Jones,
 Caroline B. Jonsen,
 Eleanor M. Jordan,
 Margaret H. Kelly,
 Mary F. Keyes,
 Sarah A. Kilduff,
 Annie R. King,
 Grace N. Kinney,
 Lillian Lasker,
 Margaret C. Littlefield,
 Mary F. Magrath,
 Regina C. McCabe,
 Susan C. McLaughlin,
 Emma A. Miller,
 Della V. Mitchell,
 Marguerite T. Morse,
 Susan J. Murray,
 Annie E. Neal,
 Gertrude F. Newman,
 Mary A. Noonan,
 Gertrude H. O'Connor,
 Marion L. Owen,
 Katherine E. Owens,
 Gertrude E. Peake,
 Ruth Perry,
 Cora L. Pickering,
 Ida Prager,
 Anna H. Prescott,
 Minnie A. Prescott,
 Ida E. Rounsefell,
 Margaret L. Rourke,
 L. Gertrude Sanborn,
 Mabel J. Sanborn,
 Alice E. Seaver,
 Helena D. Smith,
 Ernestine G. Spitz,
 Amelia Spring,
 Grace E. Stetson,
 Marion Stevenson,
 Abigail F. Sullivan,
 Mary R. Sullivan,
 Minnie E. Sutherland,
 Helen F. Tarpey,
 Katherine M. Turner,

Anna K. Vackert,
 Mabel B. Van Huysen,
 Elsie G. Warren,
 Bessie B. Wheeler,
 H. Caroline Wort,
 Annie M. Zbroisky.

ROXBURY HIGH SCHOOL.

FOURTH-YEAR CLASS.

Boys.

Robert W. Downing,
 Warren A. Priest,
 Fred G. Smith,
 Arthur M. Wiggin.

Girls.

Anna S. Basford,
 Laura Bowman,
 Grace C. Boyden,
 Elizabeth R. Brady,
 Edna P. Carret,
 Annie W. Davis,
 Annie B. Dooley,
 Lena G. Fay,
 Annie FitzGerald,
 Alice G. Ford,
 Frances S. Fowle,
 Mabel S. Franklin,
 Mabel Gibson,
 Carrie M. Goulding,
 Josephine Hammond,
 May J. Hinkley,
 Annie S. Irvin,
 Louise M. C. Jones,
 Lenore W. Kinney,
 Grace G. Low,
 Christina G. McKenzie,
 Grace E. Mead,
 Mary E. Murphy,
 Mildred G. Potter,
 Anna H. Prentiss,
 Winifred Ryder,
 Eva M. Sharpe,
 Eleanor F. Somerby,

Louise F. Staehli,
 Jessie Todd,
 Carrie M. Wadman.

THIRD-YEAR CLASS.

Boys.

Albert H. B. Arnold,
 Frederic C. Ayers,
 John J. Aylward,
 Clifford W. Backup,
 Walter R. Bean,
 Wesley M. Bishop,
 Walter N. Charles,
 Harry J. Cleary,
 Edward B. Davis,
 Arthur E. Driscoll,
 Ernest R. Emerson,
 James F. Gleavy,
 Henry R. Good,
 Harry C. Hanson,
 Ralph F. Hanson,
 Robert W. Hewins,
 Charles W. Hinckley,
 William F. Hoehle,
 George W. Knight,
 Henry C. Lawrence,
 Walter L. Leighton,
 William H. Libby,
 James G. MacDonald,
 Daniel F. McGillicuddy,
 Edouard A. Mead,
 Albert Mehlinger,
 Edward J. Morand,
 Herbert B. Morse,
 Norman F. Morse,
 Augustin S. Pelletier,
 George L. Pierce,
 Wallace H. Plummer,
 Charles H. Porter,
 Robert P. Roberts,
 Leo W. Schlegelmilch, Jr.,
 George A. Snell, Jr.,
 John L. Tufts,

William E. Tyler,
 Leonard Wesson.

Girls.

Ella P. Adams,
 Lillian Alley,
 Mary A. Ansart,
 Anna C. Arnold,
 Ida H. Ayers,
 Gertrude S. Badger,
 Gertrude Baldwin,
 Bessie C. Banker,
 Annie L. Berry,
 Marie L. Bingham,
 Gertrude Butcher,
 Annie D. Butrick,
 Florence L. Carr,
 Christina J. Carret,
 Evelyn Carver,
 Mary A. Cassidy,
 Louise G. Cheever,
 Gertrude A. Child,
 Ada S. Clough,
 Katharine L. Connell,
 Josephine Daniels,
 Elizabeth S. Downs,
 Katharine Falvey,
 Jessie M. Ferguson,
 Florence E. Fisher,
 Elizabeth F. Flannery,
 Mabel Foster,
 Violet O. Frederick,
 Mabel E. Freeman,
 Hilda Friedman,
 Clara S. Frost,
 Agnes M. Gavin,
 Esther Gill,
 Louise E. Glass,
 Lillian F. Goode,
 Anna J. Griffin,
 Beatrice L. Hadcock,
 Carrie F. Hall,
 Lida J. Hamilton,
 Eliza M. Hobbs,

Grace E. Hood,
 Marion E. Hooton,
 Gertrude E. Humphrey,
 Zulma E. Lunt,
 Mary C. Maloy,
 Millie A. Martyn,
 Agnes F. Mather,
 Rachel F. McConnell,
 Ethel W. Metcalf,
 Josephine P. Nourse,
 Annie L. O'Connor,
 Elizabeth P. Palmer,
 Gertrude C. Palmer,
 Emma L. Papenhausen.
 Leonore Papenhausen,
 Frances L. Peck,
 Mabel E. Phillips.
 Carolyn B. Phippen,
 Amy R. Pickert,
 Genevieve A. Ryan,
 Gertrude L. Ryan,
 Helen T. Ryan,
 Harriet Scaulon,
 Sara H. Scaver,
 Agnes M. Shanahan,
 Frances M. Simpson,
 Leah F. Sprague,
 Alice J. Sughruue,
 Alice G. Taylor,
 Harriet Taylor,
 Ethel L. Thayer,
 Joanna A. Tobey.
 Gertrude F. Whitecomb,
 Edith C. Wilkinson,
 Mary M. Withington,
 Henrietta M. Woods,

WEST ROXBURY HIGH
 SCHOOL.

FOURTH-YEAR CLASS.

Girls.

Ida B. Henderson,
 Annie T. Kelley,

Margaret F. Murphy,
 Marion E. Poole.

THIRD-YEAR CLASS.

Boys.

Charles A. Bohn,
 William T. Conway,
 Charles A. Drew,
 Edward Erickson,
 Philip C. Gerlach,
 Gardner L. Lewis,
 Edward McManus,
 Benjamin Proctor, Jr.,
 William J. Rogers,
 Albert C. Whittemore.

Girls.

Caroline M. Adams,
 E. Jeannette Adams,
 Mary B. Adams,
 Lillian G. Ammidown,
 Blanche E. Atherton,
 Helen D. Barrett,
 E. Marguerite Beaumont,
 Susan M. Bradley,
 Alice C. Clapp,
 F. Gertrude Clisham,
 Gazelle Eaton,
 Kathleen A. French,
 Florence M. Halligan,
 Clara A. Harring.
 Annie H. Holbrook,
 Alice G. Lincoln,
 H. Gertrude Lord,
 Rose M. Lyons,
 Louise A. Mann,
 Katherine T. McCarthy,
 Sarah F. Nolan,
 Gertrude E. Reed,
 Gertrude V. Sharp,
 Saidee S. Slader,
 Edith Ward,
 Ella F. Webb,
 Harriet M. Wood.

ADAMS SCHOOL.

Boys.

Albion C. Barrett,
 Henry H. Bartlett,
 Harry N. Bloomfield,
 Thomas E. Breslin,
 Henry J. Cobb,
 Daniel J. Donovan,
 John D. Lane,
 Walter A. Larkin,
 John A. McIntyre,
 Fred H. McKinnon,
 William A. Mills,
 William B. Moran,
 John W. Murphy,
 George W. Peacock,
 Albert U. Reaves,
 William M. Rebholz,
 John M. Reilly,
 John E. White.

Girls.

Annie J. Aplin,
 Anna M. Benson,
 Ethel M. Brown,
 Elizabeth Chamberlain,
 Daisy F. Dornhofer,
 Addie M. Knowles,
 Rose P. Knowles,
 Jennie Meyer,
 Christina S. Millar,
 Minna Rebholz,
 Ida M. Smith,
 Bertha F. Snow,
 Florence C. Snow,
 Annie G. Wolfson.

AGASSIZ SCHOOL.

Boys.

William J. Atwood,
 Herbert C. Beckett,
 Lester C. Boynton,
 Hemenway C. Bullock,

James P. Carty,
 Joseph F. Corbett,
 Jesse D. Crook,
 William F. Dolan,
 Rossell Drisko,
 Roscoe D. V. Edwards,
 John J. English,
 Ernest M. Farwell,
 James E. Finigan,
 Arthur Forbes,
 James F. Foss,
 William F. Graham,
 Robert Hogg,
 James L. Keleher,
 J. Clifford Knights,
 Carl J. Kraus,
 Thomas F. Larkin,
 Charles H. Lavers,
 Joseph A. Lennon,
 Robert E. Leonard,
 Louis A. Lindfors,
 Arthur Long,
 John A. Lynch,
 Louis J. Mahoney,
 Herbert S. May,
 William A. McGee,
 Henry N. McKay,
 James J. McMorrogh,
 Edward E. Meehan,
 Walter R. Moulton,
 John W. Murray,
 Clarence A. Rathbone,
 Frank F. H. Smith,
 Arthur O. York.

BENNETT SCHOOL.

Boys.

William J. Barrett,
 James Bowen,
 Michael H. Brogie,
 George E. Brown,
 Andrew M. Byrne,
 Thomas J. Falvey,
 Benjamin A. Heath,

Edward W. Kelly,
 John H. Kelly, Jr.,
 Edward A. McKinney,
 John F. Russell,
 Fabian Ronke,
 William D. Welch,
 Charlie E. Young, Jr.

Girls.

Helen E. Brock,
 Mary E. Brogie,
 Margaret I. Burns,
 Catherine A. Cady,
 Elizabeth Coen,
 Marian L. Crowley,
 Joanna E. Dungan,
 Julia A. Flaherty,
 Bessie E. Gray,
 L. Winifred Gray,
 Mary S. Gray,
 H. Wilhelmine Humphrys,
 Mabel M. Irving,
 Maude M. Irving,
 Mary E. Knight,
 Lillian A. Livermore,
 Katharine G. Meade,
 Helen F. Monroe,
 Florence M. Mullane,
 Mary R. Pope,
 Mary A. Roberts,
 Genevieve M. Roche,
 Eleanor G. Russell,
 Ethel L. Sawyer,
 Mary L. Sullivan,
 Lillian M. Thornton,
 Mary A. Tierney.

BIGELOW SCHOOL.

Boys.

Frank F. Abele,
 Walter H. Anderson,
 Henry E. Atkins,
 Richard L. Birmingham,

Patrick F. Bernard,
 John A. Bond,
 Frederick E. Brown,
 Mark A. Brown,
 John J. Burke,
 John T. Burke,
 Edward A. Burroughs,
 George W. Caldwell,
 Patrick H. Clancy,
 Lucius W. Cleaves,
 Frank J. Colby,
 Vincent A. Coleman,
 William G. Cook,
 Michael F. Corkery,
 William E. Crowley,
 Thomas A. Daly,
 John H. Doherty,
 Chester B. Donely,
 Edward R. Dougherty,
 Michael F. Doyle,
 Frederick L. Farrell,
 Frank Faulhefer,
 Albert B. Fisher,
 Martin J. FitzGerald,
 Edward F. J. Ford,
 E. Vincent Ford,
 William A. Fouby,
 D. Louis Frazer,
 Charles P. Gale,
 Stephen J. Gearin,
 Eugene J. Geary,
 William J. Giblin,
 William F. Gorman,
 Joseph A. Harrington,
 Harry E. Henderson,
 Thomas Hogan,
 Edward D. Hurley,
 John F. Johnson,
 Stephen J. Kennedy,
 Joseph V. King,
 George E. Kinsman,
 Rollo E. Lane,
 John Lee,
 Percival C. Lewis,

William J. Lloyd,
 Daniel F. Maguire,
 John A. Maguire,
 William A. Mangan,
 Thomas E. McCormick,
 Thomas F. McCue,
 Leo F. McCullough,
 James McDonough,
 Edward G. Morris,
 William P. Morrissey,
 William F. Mulert,
 Jeremiah F. Murphy,
 John F. Nash,
 William L. Newton,
 Michael J. O'Leary,
 George R. Orr,
 James E. Orr,
 John A. Probaska,
 Joseph J. Quigley,
 Thomas F. Quigley,
 William J. Reagan,
 Bert J. Reavey,
 William E. Roberts,
 John H. Smith,
 Timothy H. Sullivan,
 William P. Sullivan,
 Francis J. Teevens,
 John W. Warren,
 Harry E. Webber,
 William F. Whitten.

BOWDITCH SCHOOL.

Girls.

Melvina A. Adams,
 Marjory Atkins,
 Katie L. Blake,
 Elizabeth G. Casey,
 Mabel B. Chamberlin,
 Elizabeth E. Curley,
 Grace B. English,
 L. Gertrude Estabrook,
 Charlotte S. Fild,
 Henrietta T. Fild,
 Lena M. Fiske,

Elizabeth Galvin,
 Mabel F. Green,
 Teresa A. Kelly,
 Lucy A. Kettendorf,
 Elizabeth G. Larkin,
 Winifred T. Leonard,
 Mary Lithgon,
 Carrie Lougee,
 Lucie M. Lovett,
 Annie Maguire,
 Alice M. Marshall,
 Mary E. McCarren,
 Annie L. McClellan,
 Grace K. McGuire,
 Mary H. McLoon,
 Josephine C. Murphy,
 Martha E. Murray,
 Elizabeth G. Nelson,
 Jennie Oppenheimer,
 Marion L. Peabody,
 Catherine Pugh,
 Edith M. Rogers,
 Nellie J. Sexton,
 Marie L. Soderstrom,
 Pearl Watson,
 Elsie M. Wein,
 Blanche E. Whiting,
 Alice L. Wilbur.

BOWDOIN SCHOOL.

Girls.

Jessie M. Abererombie,
 Mabel M. Banks,
 Mabel D. Barrows,
 Carrie M. Bittner,
 Bessie L. Bradbury,
 Lilley A. Brooks,
 Charlotte H. Brown,
 Mary L. Carroll,
 Fannie M. Craig,
 Mary R. Crowley,
 Maud M. Daniels,
 Margaret L. deWolfe,
 Florence A. Emery,

Eldora Godsoe,
 Edith A. Hale,
 Jennie C. Hammons,
 Edith C. Hubley,
 Annie G. Kelley,
 Margaret A. Kenney,
 Theresa A. Kenney,
 Agnes C. McGaw,
 Katherine G. O'Donnell,
 Mabel C. Pond,
 Joanna T. Prout,
 Agnes M. Reid,
 Eva C. Rieh,
 Isabel P. Seaman,
 Mary S. Shanahan,
 Caroline A. Shay,
 Anne W. Smiley,
 Alice E. E. Taylor,
 Florence G. A. Taylor,
 Annie Tirk.

BRIMMER SCHOOL.

Boys.

W. James Boyle,
 Millard F. Clark,
 Isaac Cohen,
 Samuel Cohen,
 William H. Cox,
 Neils H. Dall,
 Charles A. Doyle,
 John J. Doyle,
 George L. Ellsworth,
 Percy Finer,
 John J. Fitzgerald,
 Walter J. Hartt,
 Alexander F. Hastie,
 John J. Hennessy,
 Edward E. Holley,
 Henry H. Kerr,
 Leo J. La Farge,
 William H. Lambert,
 John J. Manley,
 Eugene J. A. McCarthy,
 Edward S. McField,

J. Edward Morris,
 William J. O'Donnell,
 Ernest A. Otto,
 Erving I. Pendleton,
 William A. Pinkham,
 Frederick G. Roberts,
 Clifford G. Rounsefell,
 William T. Russell,
 Joseph P. Scanlon,
 Edward M. Sullivan,
 J. Angus Walker,
 Frank S. Wiley,
 Harry Wyman.

BUNKER HILL SCHOOL.

Boys.

John E. Bean,
 Percy H. Bowman,
 Milford W. Chamberlain,
 Daniel G. Collins,
 Timothy F. Collins,
 Arthur J. Conroy,
 Rollin H. Corwin,
 George N. Coyle,
 Arthur T. Downey,
 Charles E. Donahue,
 Thomas P. Harlow, Jr.,
 Arthur J. Kelley,
 Thomas J. Kilillea,
 William T. McCarty,
 Timothy F. Murphy,
 Timothy J. Reardon,
 Harry A. Ross,
 Herbert F. Shaw,
 William Sweeney,
 William H. Welch,
 George E. Whitehouse,
 George M. Williams.

Girls.

Josephine G. Barker,
 Mary F. Bolan,
 Lucy M. Burrows,
 Agnes E. Collins,

Catherine M. Haley,
 Frances Haskin,
 Sarah V. Henchey,
 Edith M. Hitchings,
 Corabel Hughes,
 Emma L. Jordan,
 Edith L. McCracken,
 Mabel L. McRea,
 Elizabeth W. Meehan,
 Mary A. Moran,
 Rosa M. Morrill,
 Amelia T. Olin,
 Mabel W. Thayer,
 Lillie M. Troville,
 Grace E. Turner,
 Etta C. White,
 Florence M. Wilson,
 Georgie C. Young.

CHAPMAN SCHOOL.

Boys.

John H. Allen, Jr.,
 William F. Barber,
 William S. Barker,
 George K. Bond,
 Archibald R. Briggs,
 Arthur E. Brown,
 Charles F. Carey,
 Frank J. Carey,
 Louis S. Cates,
 Charles H. Conant,
 Norman S. Cook,
 Alva L. Dingwell,
 J. Herbert Dunning,
 Freeman D. Emery,
 Edward K. Fenno,
 David A. Fullerton,
 Arthur A. Gilmore,
 Aubrey G. Gilmore,
 Ralph F. Gorham,
 C. Ernest Greenwood,
 Eben Hodge,
 Bernhard H. Ingalls,
 Edward S. Jackson,

William H. Kissock,
 Albert L. Knowlton,
 Charles H. Maginn,
 Ralph E. Main,
 William H. Marshall, Jr.,
 William N. McGreenery,
 James McLaren,
 William H. H. McPherson,
 James L. McVey,
 Lawrence Morris,
 Raymond F. Murdock,
 Lewis F. Nickerson,
 Edward F. O'Brien,
 Richard Pigeon,
 Matthew Porter,
 Frank J. Purchase,
 Josiah E. Reid,
 William P. Ryder,
 Frank W. Scott,
 George F. Stewart,
 John R. Story, Jr.,
 Charles C. Whelpley,
 Louis A. Whitehouse.

Girls.

Mary E. Bithell,
 Bessie G. Brown,
 Lizzie A. Brown,
 Agnes L. Bucknam,
 Alice L. Cashman,
 Florence E. Conlin,
 Florence M. Cowan,
 Effie G. Crosby,
 Agnes E. Deering,
 Annie C. Deering,
 Myrtle J. De Leskey,
 Elizabeth M. Driscoll,
 Stella B. Drysdale,
 Hattie L. Ellsworth,
 M. Gertrude Fletcher,
 Maude B. George,
 Jennie P. Gilman,
 E. Priscilla Gleason,
 Hattie D. Griffin.

Blanche M. Henderson,
 Clara E. Hodgkins,
 M. Gertrude Hooper,
 Mabel L. Josselyn,
 Elizabeth E. Keller,
 Evangeline Knowles,
 Alice M. Laskey,
 Sadie M. Lowsbro,
 Margaret E. McInnis,
 Augusta McKie,
 Katharine E. McPhee,
 Helen F. McVey,
 Jessie M. Moody,
 Elizabeth R. Morrison,
 Margaret L. Murray,
 Meroy O. Newton,
 M. Grace Parnell,
 Stella M. Piteher,
 Bertha I. Rumney,
 Augusta P. Scott,
 Eva M. Smith,
 Estelle W. Sprague,
 Mabel A. Ward.

CHARLES SUMNER SCHOOL.

Boys.

A. Edward T. Anderson,
 Charles E. Bartlett,
 Brainard L. Bates,
 Frederick E. Bruce,
 George W. Bunker,
 Chester L. Carlton,
 G. Emory Chellman,
 J. Edwin Chellman,
 Frederick A. Dakin,
 Duncan H. Dewar,
 James H. Donovan,
 William H. Egge,
 Herbert A. Fish,
 Theodore C. Gates,
 Paul L. Jepson,
 Oscar W. Johnson,
 Walter S. Kelly,
 Carl F. Kraut,

August A. Krebs,
 C. Otto Kunz,
 Clarence E. Lovejoy,
 William H. Manning,
 John F. Marion,
 J. Robert Maynes,
 Emil K. New,
 Oliver T. Noon,
 Edwin L. Noyes,
 Henry G. Pfaff,
 Arthur B. Reardon,
 Louis W. Retzel,
 J. Frank Rourke,
 Robert E. Thomas.

Girls.

Mildred S. Blasland,
 Blanche J. Blocklinger,
 Emily F. Bradley,
 Alice M. Chenery,
 Emma L. Dahl,
 Emilia Doell,
 Emily F. G. Duffy,
 Rebecca Fitzpatrick,
 Marguerite P. Fossett,
 Mabel A. Glover,
 Anna G. Hamilton,
 Lela S. Hebb,
 Mary R. Hinman,
 Laura W. Johnston,
 Adele A. Kaiser,
 Emilie B. Kramer,
 Jennie B. Lent,
 Ethel M. McJunkin,
 Mary Meurer,
 Laura O. Nicholson,
 Helen J. Norton,
 Margaret V. Norton,
 Mary C. O'Connor,
 Charlotte E. Parker,
 Georgia M. Rodiek,
 Lillian S. Rogers,
 Amelia Rothfuchs,
 Harriet Rothfuchs,

Elizabeth F. Saunders,
 Alice H. Travers,
 Louise B. Uriot,
 Clara L. Weimar,
 F. Elizabeth Widmer,
 Ethel C. Worth,
 Rosalie A. Zappey.

COMINS SCHOOL.

Boys.

Robert A. Bletzer,
 Thomas F. Connolly,
 John P. Craven,
 Michael J. Dunlap,
 James E. Gilligan,
 Fred L. Goodman,
 Paul E. Heerbrandt,
 Charles Holzwarth,
 Walter C. Katzmann,
 Thaddeus M. Kehoe,
 William J. McCarty,
 Charles A. McGrath,
 Thomas J. Morton,
 Edward J. Murnan,
 Edward E. Murray,
 John B. Steele,
 Edward J. Sullivan,
 John J. Woods,
 Joseph C. Woods.

Girls.

Amelia A. Aberle,
 Adele M. C. Biewend,
 Elizabeth M. Brophy,
 Mary E. Burns,
 Katherine G. Carr,
 Frances M. Catarius,
 Rose A. Convery,
 Celia J. Craffey,
 Mary E. Donovan,
 Katherine E. Glancy,
 Agnes T. Goodwin,
 Pearl F. Hancock,
 Sarah Hickey,

Mary F. V. Madden,
 Harriet F. McMullen,
 Mary V. McNulty,
 Katherine H. Morton,
 Amanda E. Murphy,
 Mary E. Murry,
 Annie Mustasky,
 Louise M. O'Connor,
 Elizabeth V. Otis,
 Elizabeth Stroebel,
 Louise C. Weeber.

DEARBORN SCHOOL.

Boys.

Edward M. Ayer,
 Ernest H. Brooke,
 Daniel J. Cotter,
 John A. Darling,
 James J. Doherty,
 Frank L. Edwards,
 William S. Edwards,
 Edward J. Gorham,
 Edward F. Lanergan,
 John T. Malley,
 James L. McGovern,
 William H. Morgan,
 James T. Mulroy,
 Patrick J. Mulroy,
 George M. Pike,
 Ambrose J. Purecell,
 William E. Rienbold,
 Vincent R. Sayward,
 Walter D. Shanahan,
 Charles E. Shay,
 Louis C. I. Stickel,
 Frank Taylor,
 John Williams,
 Cephas M. Woodberry,
 William R. Yerrick.

Girls.

Mertie R. Adams,
 Sarah E. Bon,
 Mary V. Brown,

Margaret M. Burns,
 Jessie M. Bruce,
 Elizabeth Davis,
 Ethel M. Dennis,
 Edith W. Franklin,
 Mary E. Gately,
 Gertrude L. Gavin,
 Minnie L. Goehl,
 Jane M. Good,
 Florence V. Gray,
 Elizabeth H. Gunstrom,
 Mary G. Hearty,
 Mabel E. Jarvis,
 Anna T. Kilroy,
 Mary E. Lawless,
 Mary E. Manning,
 Dora E. McCarty,
 Mary G. McDade,
 Lottie M. McIlroy,
 Annie V. McGovern,
 Mary L. Moran,
 Anna A. O'Brien,
 Winifred A. O'Connor,
 Alice H. Paul,
 Bertha Randall,
 Ellen A. Schultz,
 Alice G. Sheenan,
 Ellen C. M. Smith,
 Sarah C. Towle,
 Grace M. Tukey,
 Elizabeth M. Turkington,
 Jennie F. Whitton.

DILLAWAY SCHOOL.

Girls.

Agnes E. Allard,
 Elizabeth D. Arnold,
 Elizabeth E. Ballou,
 Ruth C. Barry,
 Della F. Bosworth,
 Lillian A. Braey,
 Stella M. Brady,
 Mary Burkhardt,
 Amy Carver,

Carrie G. Childs,
 Anna F. Cobb,
 M. Hortense Cobb,
 Edith A. Coleman,
 Stella A. Congdon,
 Emily H. Copeland,
 Lillian C. Cutten,
 Charlotte Douglas,
 Katherine L. Downey,
 Mary C. Egan,
 Eva E. Evons,
 Florence H. Felch,
 Catherine T. Fitzgerald.
 Maude Friedman,
 Marion C. Fussell,
 Bessy M. Gove,
 Josephine W. Hall,
 Sarah J. Harms,
 Annie M. Hobby,
 Alice F. Howard,
 Anna M. Hughes,
 Alice E. Johnson,
 Bertha L. Johnson,
 Minnie S. Johnson,
 Helen V. Kenny,
 Helen A. Lancaster,
 Helen F. Larkin,
 Grace Lilienstern,
 A. Louise McGarty,
 Helen T. Mellyn,
 Margaret G. Moran,
 Florence G. Sawyer,
 Edna D. Stoddard,
 Emma G. Thorpe,
 Eva M. Underhill.

DUDLEY SCHOOL.

Boys.

Horace Bailey,
 Frank V. Bulfinch,
 Edward F. Burke,
 Arthur B. Butler,
 James H. Coffey,
 Alden L. Cole,

Joseph L. Connell,
 Dennis W. Cotter,
 Charles H. Covell,
 Rockwood E. Daniels,
 James Daykins,
 Arthur P. Denney,
 Robert A. Deuel,
 Daniel J. Flynn,
 Carl B. Gibson,
 George W. Gillette,
 William F. Glennon,
 Charles S. Gordon,
 Thomas J. Gordon,
 Eliot Granger,
 Harry J. Haney,
 George B. Harrington,
 Frank J. Heap,
 Ernest E. Horton,
 Martin Hussey,
 Carl S. Jaeger,
 Francis J. Jones,
 Frederick L. Kelley,
 John W. Kitson,
 Thomas F. Lawless,
 Abraham Lehr,
 Sidney S. Levy,
 Lorin E. Lewis,
 Harold C. Lincoln,
 Walter H. Lord,
 William H. Low,
 George A. Luke,
 Arthur M. Mann,
 Ernest G. McLaughlin,
 Frank E. McLeod,
 Michael J. Milford,
 Frederick W. Miller,
 Philip E. Miller,
 John F. Morrison,
 John A. J. Morrissey,
 John F. Murphy,
 George H. Murray,
 John S. Murray,
 John J. Murry,
 V. William Naylor,

Frederick W. X. O'Brien,
 Walter N. Pfroetzschner,
 Frederick A. Price,
 Howard G. Reynolds,
 John Saul,
 Henry M. Seaver,
 Frank Sedgley,
 George J. Sinnett,
 Charles J. Smith,
 Edward Snell,
 Dana J. Stevens,
 Hosea E. Thayer,
 Anthony I. Werner,
 Reuben S. Wyner.

DWIGHT SCHOOL.

Boys.

Solomon Ascher,
 Jacob B. Basch,
 William M. Bassett,
 Owen H. Baxter,
 Hamilton H. Brown,
 Joseph A. Bryant,
 William H. Carney,
 John B. Conant,
 George Corrao,
 John W. Craig,
 Daniel P. Danehy,
 Frank M. Elwell,
 George A. Farren,
 Harrison W. Gardiner, Jr.,
 Louis Gilbert,
 Edward H. Goodrich,
 William C. Harty,
 Frank A. Hines,
 Earle N. Jackman,
 Lester Keiffer,
 Joseph F. Kleh,
 Frank B. Lawler,
 Harry D. Leighton,
 James R. Lee,
 Louis Lowenberg,
 Horace J. Macintire.

Thomas F. McDonald,
 Patrick C. McKiernan,
 Warren C. Merrill,
 Thomas M. Morong,
 Albert D. Morse,
 Edward Murphy, Jr.,
 William M. Murphy,
 Joseph P. O'Brien,
 Harold J. O'Doherty,
 Henry J. D. Powers,
 Vincent P. Roberts,
 John F. Rowan,
 Edward H. A. Sennott,
 Hyman I. Slutzki,
 Daniel F. Sullivan,
 Thomas J. Sullivan,
 Jerome Summers,
 Mark Tischler,
 Arthur Wallace,
 George J. Williams,
 Arthur Willis.

EDWARD EVERETT SCHOOL.

Boys.

Robert F. Athorn,
 Charles L. Bennett,
 Herbert L. Berry,
 Thomas M. Blair,
 Clifford B. Clapp,
 David J. Foley,
 George H. Fruean,
 William A. Harty,
 Wilbur F. Hedden,
 Elmer M. Hervey,
 Harold S. Hinckley,
 Herbert T. Kalmus,
 Newell L. Keith,
 William F. Leach,
 Charles H. McAfee, Jr.,
 Patrick J. McCarthy,
 William L. McCormack,
 Harold L. Paige,
 Harry Pearson,
 John D. Perry,

S. Dewey Powers,
 Frederic J. Ricker,
 Sydney H. Riley,
 Henry J. Skinner,
 Rufus B. Skinner,
 G. Kendrick Smith,
 George A. Tracey,
 Joseph H. Walsh,
 Roy F. Whitney,
 Samuel Williams,
 Joseph E. Worthington.

Girls.

Louise S. Allard,
 Olive E. Baker,
 Lillian E. Batchelder,
 E. Florence Besarick,
 Emma F. Binford,
 Hattie L. Breed,
 Katherine R. Breen,
 Carrie C. Chase,
 L. Adelaide Chase,
 Elizabeth M. Comerford,
 Mary A. Connell,
 Annie J. Converse,
 M. Josephine Cook,
 Ellen L. Coughlan,
 Annie E. Dennison,
 Annie G. Dolan,
 Mary O. Folsom,
 Amelia R. Gilbert,
 Annie K. Graham,
 Harriet E. Hamilton,
 Mabel G. Harlow,
 Catherine S. Harrington,
 Nettie M. Hedden,
 Emma Howes,
 Nellie E. Hufton,
 Dora M. Ingalls,
 Gertrude Johnson,
 Helen B. Kemp,
 Marion E. Luce,
 S. Beatrice Manson,
 Lucy F. Mohan,

Helen R. Palmer,
 Gertrude R. Pindell,
 Edith A. Scott,
 Gertrude Shine,
 Ida M. Stebbins,
 Elizabeth L. Thompson,
 Annie E. Wark,
 Alice D. Watkins,
 Jeannette A. Weaving,
 Mary L. Wieman,
 Margaret G. Wilson.

ELIOT SCHOOL.

Boys.

James L. Anthony,
 William F. Belton,
 Harry Brooks,
 George Canella,
 Timothy J. A. Collins,
 Aaron Dangel,
 Charles S. Dannenberg,
 Louis R. De Voto,
 George E. Dixon,
 Charles H. English,
 Louis H. Epstein,
 Ellis Ferber,
 Ephraim Finkelstein,
 John F. Fopiano,
 John A. Garibotto,
 Michael J. Gilligan,
 Michael Goldstein,
 Hyman Greenstein,
 Daniel J. Hayes,
 John Higgins,
 Joseph F. Howard,
 Charles Kalish,
 Abraham I. Karnow,
 Robert J. Kennecally,
 Jacob F. Krokyn,
 Augustus Leveroni,
 Herman J. Levine,
 William R. Locker,
 Joseph E. McDonough,

William L. Moran,
 Jeremiah J. Nihan,
 Louis Novack,
 Abraham I. Politsky,
 Joseph L. Porchella,
 Max H. Rittenberg,
 Morris T. Romanow,
 Jacob A. Rubenstein,
 William H. Thompson,
 Patrick J. Wool,
 Pilgrim Zolla.

EMERSON SCHOOL.

Boys.

Edward F. Anderson,
 John A. Anderson,
 William H. Anderson,
 Charles A. Brown,
 Edward L. Butler,
 Joseph E. Cahill,
 Fred J. P. Chase,
 John J. Collins,
 William Cullen,
 Maurice A. Frohock,
 John H. M. Hall,
 John Q. A. Hanson, Jr.,
 Charles H. Jones,
 Ernest P. King,
 Karl J. B. Knudsen,
 Joseph Lavezzo,
 Gynla F. Manson,
 Ralph C. McPherson,
 Guy W. Melvin,
 William A. Moore,
 Frederick A. Moreland,
 Peter J. Murphy,
 John E. Nagle,
 Frank E. Neilson,
 Arthur T. Nelson,
 John T. O'Neil,
 Herbert W. Porter,
 George P. Reed,
 Herbert D. Remick,

Charles W. Reynolds,
 Thomas H. Sexton,
 Walter H. Simpson,
 William S. Smith,
 C. Louis Yeaton,
 William Younie.

Girls.

Abbie M. Appleton,
 Sylvia M. Booth,
 Margaret C. F. Bradlee,
 Alice L. Breese,
 Estelle M. Callahan,
 Helen G. Chamberlin,
 Clara B. Cochran,
 Mary Costa,
 Mary E. Cragin,
 Bertha M. Dows,
 Susan W. French,
 Elsie V. Gallagher,
 Edith L. Harrington,
 Laura A. Holbrook,
 Gertrude A. Jackson,
 Elizabeth A. Kenny,
 Susan L. McCulpha,
 Mary F. Maclauchlan,
 Florence M. Moore,
 Sarah C. Needham,
 Henrietta F. Randolph,
 Anna E. Ray,
 Lillian S. Ray,
 Eleanor I. Roberts,
 Florence W. Sampson,
 Mary Silva,
 Nellie M. Simpson,
 Elinor Smith,
 Marian B. Story,
 Lavinia E. Tait,
 Lena M. Wanvick,
 Ada L. Wells,
 Gertrude F. Welsh,
 Lillian Wilcox,
 Alice L. Young,
 Georgie A. Young

EVERETT SCHOOL.

Girls.

Theresa B. Abrams,
 Bessie G. Allen,
 Hilma J. V. Anderson,
 Ruby M. Banfield,
 Catherine F. Boucher,
 Lauretta M. Boyle,
 Sara T. Bray,
 Mary F. Bulger,
 Annie V. Burke,
 Mary T. Clarke,
 Edith W. Clement,
 Edna L. Cliff,
 M. Henrietta Coes,
 Mary A. Corcoran,
 Grace I. Corthell,
 Julia C. Cripps,
 Teresa M. Curry,
 Alice M. Dow,
 Alice M. Duston,
 Grace B. Egleston,
 Bertha K. Ellis,
 Josephine F. Ellis,
 Florence G. Fagg,
 Katharine A. Fallon,
 Helen A. Ferguson,
 Fannie Friedlander,
 Mary F. Frizzell,
 Willetta Gardiner,
 Ellen C. Gilman,
 Clara Guilday,
 Loretto H. Harrington,
 Jennie E. Harvey,
 Ida A. Heine,
 Genevieve Hickie,
 Edna M. Hilton,
 Daisy A. Hurford,
 Catherine F. Hurney,
 Annie C. Isaacs,
 Edna M. Isbester,
 Clara L. Keiffer,
 Florence Lasker,
 Ethel M. Leverman,

Mary P. Lewis,
 Martha Lyman,
 Josephine A. Lynch,
 Rebecca G. Macdonald,
 Mary A. McCarthy,
 Alfretta P. McClure,
 Annie E. McKim,
 C. Marie A. Meyer,
 Susie L. Milliken,
 Annie F. Mirey,
 Edna B. Mitchell,
 Blanche H. Morrow,
 Eugenia M. Neal,
 Ella L. Nissen,
 Georgia E. Nugent,
 Gertrude M. O'Brien,
 Mary E. O'Neill,
 Helen A. Perkins,
 Pearl O. Perkins,
 Adelaide P. Rea,
 Gertrude V. Regan,
 Mary M. Sampson,
 Grace L. Scofield,
 Amanda L. Scott,
 Myra Seamon,
 Anna G. Sheridan,
 Blanche M. Siske,
 Ellen A. Spinoza,
 Carrie M. Sproul,
 Alice E. Starrett,
 Sarah F. Stone,
 Ellen L. Sullivan,
 Margaret Sutherland,
 Florence W. Turner,
 Bessie A. Vorenberg.

FRANKLIN SCHOOL.

Girls.

Marion E. Babcock,
 Catharine E. Barrett,
 Daisy L. H. Brown,
 Mary H. Clifford,
 Leonia N. Crowell,
 Elizabeth A. Cunningham,

C. Agnes Dailey,
 Abby E. Driscoll,
 Annie V. Driscoll,
 Minnie J. Dreyfus,
 Nettie Dudley,
 Ada F. Dunlap,
 F. Alleine Gilman,
 Eva Goldsmith,
 Margaret E. Hart,
 Flora Hendrie,
 Leah Herbert,
 Addie F. Heseltine,
 Miriam B. Jacobs,
 Ella C. King,
 Myra Levy,
 Josephine E. Lynch,
 Mary E. Lynch,
 Lena A. Marciel,
 Helen A. McCurdy,
 L. Maud McKenzie,
 Blanche L. McQuarrie,
 J. Blanche Miner,
 Annie G. Moran,
 Bertba Murray,
 Mary E. R. Murphy,
 Margaret M. C. O'Brien,
 Josephine R. Organ,
 Mabel R. Posey,
 Helena G. Quinlan,
 Ellen C. Robbins,
 Lillie L. Scott,
 Blanche Seidner,
 Emma G. Shannon,
 Edna G. Spitz,
 Julia A. Trainor,
 Jennie P. Williams,
 Florence E. Winston,
 Charlotte J. Wood.

FROTHINGHAM SCHOOL.

Boys.

Albert L. Barrett,
 Francis J. Barry,
 George R. Cummings.

Christopher C. Curcio,
 Francis W. Daley,
 Joseph J. DeFerari,
 Joseph B. Donovan,
 William P. Fitzgerald,
 William J. Foster,
 Edward Griffiths, Jr.,
 Frank E. Harrington,
 John J. Hurley,
 Edgar W. Lemay,
 Francis J. Long,
 Harold K. Marshall,
 Daniel T. McLaughlin,
 Thomas F. Meagher,
 William C. Meloy,
 William H. Mountain,
 John L. Neilson,
 William L. O'Brien,
 William J. O'Connor,
 Edward B. O'Donnell,
 Thomas P. H. O'Neill,
 Robert P. Ramsey,
 Joseph F. Sullivan,
 Daniel F. Sutton,
 John A. Turner,
 Edward C. Vaughan.

Girls.

Norah C. Ahern,
 Augusta L. Anderson,
 Anna M. Bader,
 Mary G. Bench,
 Anna A. Boles,
 Lydia M. Chapman,
 Elizabeth W. Crawford,
 Lillie M. Dillon,
 Ellen M. L. Fleming,
 Helen C. Gilmartin,
 Henrietta Klous,
 Christina G. Long,
 Theresa M. Lynch,
 Laura M. Macaulay,
 Mary G. Magee,
 Julia A. Mahoney,

Mary V. Mahoney,
 A. Maude McAuley,
 Elizabeth L. McCarthy,
 Mary G. McDonald,
 Sarah F. McLaughlin,
 Fannie G. McMahan,
 Katharine V. Merrick,
 Mary E. Mullern,
 Anna B. Murphy,
 Margaret A. Neagle,
 Margueritte V. O'Connor,
 Frances I. O'Meara,
 Johanna J. O'Neil,
 Anna B. Parker,
 Helen J. Stevens,
 Alice M. Sullivan,
 Elizabeth V. Sullivan,
 Ellena M. Sullivan,
 Catherine V. Sweeney,
 May A. Thompson,
 Margaret P. G. Vincent.

GASTON SCHOOL.

Girls.

M. Lillia Alden,
 Edith B. Arey,
 May A. Boyden,
 Katharine A. Brennan,
 Jennie E. Campbell,
 Annie F. Cashin,
 Carrie E. Cobb,
 Elizabeth A. Cogan,
 Fannie W. Dalrymple,
 Grace A. Damon,
 Mattie A. Dickey,
 Isabelle F. Dickson,
 Alice T. Dowd,
 Elizabeth J. Emerson,
 Margaret A. Ford,
 Abbie T. Freeman,
 Mabel A. Gardner,
 Gertrude L. L. Gilkie,
 Mary E. Gill,
 Ellen Hall,

Edith I. Hamlin,
 Lillian F. Henry,
 Margaret L. Higgins,
 M. Gertrude Kearns,
 Catharine J. Kelley,
 G. Beatrice Kelly,
 Frances G. Keyes,
 Gertrude E. Leishman,
 Bertha G. Linnehan,
 Addie E. Marston,
 Cecelia A. McDonough,
 Alicia M. McVey,
 Alice L. Munn,
 Margaret A. Murphy,
 Eleanor E. Murray,
 Helen F. O'Brien,
 Catherine M. Perry,
 Martha Purcell,
 Mabel E. Quilty,
 Laurania C. Ray,
 Emma Reimer,
 Lauretta A. Rich,
 Gertrude W. Simpson,
 Carrie L. Skilton,
 Florence M. Stephens,
 Mabel F. Swadkins,
 Florence M. Taber,
 Helen Taylor,
 Ruth A. Taylor,
 M. Alice Thyng,
 Mabel F. Tobin,
 Bessie M. White.

GEORGE PUTNAM SCHOOL.

Boys.

George W. Austin,
 Henry J. Clayton,
 John Cunniff,
 A. Theodore Davis,
 Frank L. Driscoll,
 John B. Fallon,
 George A. Gilman,
 Charles Herthel,
 Berger L. Linberg,

William C. Maiers,
 William A. McCann,
 James F. Miley,
 Laurance G. Mills,
 James A. Mitchell,
 William F. Quigley,
 Frank C. Ryder,
 Gardner M. Trask.

Girls.

Lillian W. Austin,
 Amy L. Backup,
 Mabel G. Bigelow,
 Mary W. Boyle,
 Pauline Brandt,
 Mary Cohn,
 Mary L. Cutting,
 Ethel M. Egan,
 Katie A. Gidney,
 Celia A. Glavey,
 Katherine A. Kelleher,
 Elizabeth R. Knibbs,
 Agnes M. Lane,
 Gertrude T. Mortimer,
 L. Maude Oakes,
 Katie T. O'Leary,
 Carrie Steiert,
 Theresa V. Sutton,
 Mabel G. Van Tassell,
 Gussie M. Wadman.

GIBSON SCHOOL.

Boys.

Henry F. Blank,
 Charles B. Bowman,
 Frank C. Brady,
 Carl S. Chace,
 Franklin M. Chace,
 Walter H. M. Daggett,
 Charles E. Gorman,
 Robert H. Kenney,
 Edward F. Lynch,
 Ralph W. Marey,
 Lawrence G. Mitchell,

Edward A. O'Brien,
Patrick F. O'Connell,
John J. Roach,
Harry C. Smith,
Fred H. Wetherald,
George A. Wheeler,
A. Edmund Wilkinson,
Charles E. Williams.

Girls.

Greta Allen,
Emma C. Baer,
Bernadette J. Bagley,
Sarah B. Bartlet,
Helen L. Bickford,
Grace Boutelle,
Agnes A. Brown,
Mabel Brown,
Marion E. Doane,
Mary A. Doody,
Louise H. Gosselin,
Ethel M. Green,
Ethel P. Hobbs,
Edith C. Johnson,
Grace E. Kellogg,
Hannah M. Leary,
Bessie O. Loring,
Rhodina McRae,
Katharine B. Merrick,
Louise E. Norris,
Florence Ourish,
Jessie L. Puffer,
Leonora M. Sanborn,
Grace E. Sharpe,
Ruth Tenney,
Valetta O. Wallis,
Lena A. Ware,
Marion E. Whippen,
Rose Williams.

HANCOCK SCHOOL.

Girls.

Bessie Barron,
Agnes M. Bennett,

Mary L. Bode,
Agnes N. T. Bonython,
Annie Brown,
Dora B. Cohen,
Mary L. Columbus,
Louisa M. Crovo,
Mary E. G. Donnelly,
Mary E. Duggan,
Mary E. P. Dwyer,
Margaret A. English,
Amelia M. Fenockietti,
Mary A. Ferry,
Flora M. Ghisla,
Mary E. Gruber,
Amelia L. Guanossa,
Rosalie Jacobs,
Margaret T. Leahy,
Annie F. Leary,
Celia Lebowich,
Rachel Leventhal,
Hannah Levine,
Theresa Modee,
Grace B. Munro,
Matilda Nemser,
Sarah M. Nemser,
Frances G. Osborn,
Celia Paltrovitch,
Orminda Ribeiro,
Lily Romanoff,
Mary C. Sinnott,
Elizabeth Stoneman.

HARRIS SCHOOL.

Boys.

Albert E. Bentham,
James Bentham,
Edward K. Davis,
C. Preston Davis,
John J. Delurey,
Joseph B. Dennison,
Frank J. Donovan,
Harold C. Everett,
Edward T. Hunt,
James A. Lynch,

Thomas P. McMorrow,
Willard F. Pear,
Arthur D. Quimby,
John W. Richardson,
Walter J. West,
James L. Willard,
Harry Wilson,
George B. Wood.

Girls.

Frances A. Austin,
A. Ethel Belcher,
Melora T. Bufford,
Ellen F. Daley,
Katherine F. Dannahy,
Euphemia R. Hudson,
Amy D. Le Favour,
Gertrude F. Mason,
May M. McLaughlin,
Adelaide J. Murphy,
Marietta Nute,
Hattie A. Osgood,
Gertrude E. Phipps,
Elizabeth M. Regan,
Lilian F. Simonds,
Emma L. Vinal.

HARVARD SCHOOL.

Boys.

William A. Carroll,
William J. Carter,
Fred E. Coates,
Charles W. Coleman,
D. Matthew Conner,
William J. Dean,
William J. Dooley,
Michael L. Fahey,
John F. Feeley,
Jesse D. Flaherty,
William J. Flanagan,
Valentine Greene,
Frank S. Hall,
John A. Hubley,

Frederic Isaacs,
Timothy F. Leonard,
William P. McCready,
Stephen P. Quirk,
Thomas F. J. Ryan,
George S. Shea,
Joseph M. Sullivan,
Edmund J. Thain,
John H. Wallace,
Arthur G. Webster,
George A. Young,
William P. Youngclaus.

Girls.

Elizabeth A. Bollard,
Ella F. Burnham,
Grace L. Byrnes,
Mary E. K. Casey,
Harriet C. Cassidy,
Carrie M. Child,
Elizabeth I. Corbett,
Katherine V. Dolan,
Maud H. Eschbach,
Bridget G. Flanagan,
Marie A. Fobare,
Agnes T. Foley,
Alice T. Ford,
E. Maud Getchell,
Margaret F. Herlihy,
Ellen E. Hughes,
Mary A. Hurley,
Addie B. Leavitt,
Grace B. Madden,
Mary E. Maguire,
Mary G. McCarthy,
Annie L. Morrissey,
Mary H. Murphy,
Mary J. Nolan,
Glenn Priest,
Catherine L. Quigley,
Annie L. Sullivan,
Esther F. Sullivan,
Margaret J. Waters,
Mary G. Welch.

HENRY L. PIERCE SCHOOL.

Boys.

Olney Anthony,
 James F. Bard,
 Joseph Calkins.
 Frank C. Carpenter,
 John M. Cummings,
 Harold C. DeLong,
 John P. Dowling,
 Andrew H. Ekbergh,
 Paul H. Elms,
 Frederick E. Farnsworth,
 George E. Flint,
 J. Mortimer Fox,
 William W. Hall,
 Percy L. Hinds,
 Richard F. Jackson,
 Arthur W. Kirkpatrick,
 Leo L. Lent,
 Harry R. Lowd,
 Howard L. Merry,
 William A. Millard,
 Herbert J. Nichols,
 Charles Pooler,
 Roger W. Potter.
 Walter D. Reid,
 Arthur E. Sanford,
 Albert Schindler,
 Edward H. Scott,
 Leo E. Sexton,
 R. Wheaton Shugg,
 Daniel J. Sullivan,
 Howard T. Sweasy,
 William H. Tweed,
 Frank E. Whalin,
 John H. Williams.
 Arthur L. Young.

Girls.

Rachel Alden,
 Olga M. Anderson,
 Mary A. Ball,
 Edith C. Barker,
 Eva F. Barnstead,

Georgetta C. Blish,
 Florence M. Bly,
 Jennie E. Brown,
 May G. Brown,
 Harriet I. Cardell,
 Fannie L. Cobb,
 Evelyn R. Collicott,
 Hattie J. Craig,
 Hattie Crawley,
 Bertha F. Crooker,
 Elizabeth D. Davis,
 Annie Dwyer,
 Harriet O. Eaton,
 Mabel A. Fowler,
 Ida M. Gilcrease,
 Elizabeth M. Halpin,
 Alice W. Hasey,
 Mary J. Hawkes,
 Bessie C. Hayes,
 Bertha L. Horsman,
 N. Gertrude Howe,
 Sadie C. Jaynes,
 Amy K. Jones,
 Lydia S. Kemalyan,
 Marion C. Kidney,
 Hattie M. Kinnie,
 Anna S. Lanphear.
 Charlotte S. McDowell,
 Alice Merrick,
 Mary L. Merrihew,
 Cora M. Merry,
 Lucy M. Mitchell,
 Anna L. Murray.
 Bertha A. Olson,
 Anna F. Perkins,
 Leona St. C. Perkins,
 Helen A. Robinson.
 Harriet T. Ross,
 Minnie Scheffreen,
 Cleopha Schindler,
 Anna R. Seigle.
 Mary Shaw,
 Jessie Smith,
 Alice M. Wilkins.

HUGH O'BRIEN SCHOOL.

Boys.

Neil M. Alexander,
 Harry W. Bauckman,
 Alfred H. Blake,
 William F. Canavan,
 Harry S. Coles,
 Frank J. Conlon,
 Joseph P. Cussen,
 Trevor A. Dean,
 Edward J. Dolan,
 Daniel C. Downey,
 John J. Ferrandi,
 Joseph G. Fields,
 James J. Gately,
 Frank H. Gill,
 Rowe A. Gladwin,
 Frank J. Glynn,
 John E. Gorman,
 Isaac H. Greenwood,
 Christian H. Hansen,
 Joseph W. Heymann,
 Charles W. Hutchinson,
 William A. Johnson,
 Robert P. Joy,
 William F. Kavenagh,
 Joseph T. Kendricken,
 Frederick Kern,
 Arthur Kimball,
 Franklin E. Low,
 Leo A. McCarthy,
 Frank J. McGonagle,
 Frank J. Minton,
 Harry A. Minton,
 Henry J. Mitchell,
 Frank J. Moriarty,
 John H. Mulhern,
 Charles J. Murphy,
 Richard F. Murphy,
 Thomas J. Norton,
 John J. O'Brien,
 W. Frank Robinson,
 Abram Sachs,
 Frederick M. Swett,

Wilmot L. Swift,
 Ernest W. Williams.

Girls.

Hazel G. Alden,
 Adelaide Banker,
 Nellie E. Barnes,
 Laura M. Brick,
 Rose G. Campbell,
 Gertrude B. Chesley,
 Mary E. Clark,
 Georgietta G. Cottrell,
 A. Louise Crockett,
 Alice G. Daly,
 Gertrude J. Devitt,
 Mary E. Dowd,
 Ethel K. Downer,
 Alice L. Downing,
 Annie Duncan,
 Margaret L. Fallon,
 Sarah J. Fallon,
 Linda S. Fraser,
 Sadie C. Frost,
 Annie L. Gorman,
 Marie M. Grosse,
 Eva G. Harvey,
 Bessie L. Hentz,
 Irene Lennon,
 Mary E. Merritt,
 Olive Natter,
 Ella C. Olson,
 Emma M. Pearson,
 Bertha E. Richardson,
 Blanche S. Robinson,
 Lizzie L. Robinson,
 Emma C. Root,
 Madeline S. Rowe,
 Juliet Sosnoski,
 Anna M. Stevens,
 Margaret A. Sullivan,
 Ethel M. Sutherland,
 Florence A. Tewksbury,
 Florence B. Tyzick,
 Mary M. Walsh,
 Georgie M. Whidden.

HYDE SCHOOL.

Girls.

Margaret V. Allen,
 Annie M. E. Amrhein,
 Helena L. Archdeacon,
 Jennie W. Ayers,
 Mary T. S. Beckman,
 Mabel F. Benton,
 Mary E. J. Bettens,
 Mary R. Brady,
 Myrtle E. Brunker,
 Margaret A. Casey,
 Annie R. Churchward,
 Mary E. Collins,
 Grace F. Costello,
 Mary E. Devine.
 Annie T. Dinand,
 N. Jeannette Fay,
 Ethel C. Fraser,
 Sarah A. Ginn,
 Mary E. Hagerty,
 Irene S. Harney,
 Harriet M. Haynes,
 Julia F. Healey,
 Barbara E. Hingley,
 Margaret C. Ingenhoven,
 Idella M. Jameson,
 Ina A. Johnson,
 Daisy L. Jones,
 Rachel Lowenberg,
 Mary L. Mack,
 Bertha Mason,
 Hattie A. Mills,
 Clara M. V. Ross,
 Matilda C. Sandberg,
 E. Adelle Scott,
 Alice F. Sharper,
 Ellen T. Shea,
 Blanche V. Smith,
 Louisa A. Staus,
 Minnie B. Stone,
 Ruth Swanson,
 Annie R. Toye.
 Eva A. Treat,

Wilhelmina G.M. Von Gerber,
 Grace E. Whitney,
 Agnes N. Winslow,
 Fredericka Young.

JOHN A. ANDREW SCHOOL.

Boys.

Walter V. Abbott,
 John F. Barry,
 Stephen F. Chamberlin,
 John A. Cummings,
 George H. Doggett,
 William J. Douglas,
 John T. Gibson,
 John B. Lynch,
 William A. Lynch,
 William J. Mahoney,
 William McDonough,
 John B. A. McTernan,
 Joseph J. Meehan,
 Clarence E. Mills,
 John A. Murphy,
 George A. H. O'Brien,
 Daniel F. Quinlan,
 Franklin C. Sands,
 Ambrose A. Sanning.

Girls.

Caroline A. Anderson,
 Myra E. Baker,
 Alice G. M. Bryan,
 Mabel Clark
 Alice C. Elliot,
 Charlotte L. Goodwin,
 Theodora Goodwin,
 Edith G. Hill,
 Alice G. M. Holland,
 Helen R. Hurley,
 Anna E. Keane,
 Mary A. Keane,
 Letitia M. Keyes,
 Linda E. Loeffler,
 Anna V. McCarthy,
 Julia M. Nash,

Annie L. Quinn,
Margaret E. Waldron,
Esther W. Wells.

LAWRENCE SCHOOL.

Boys.

Hugh Bonner,
Dennis J. Bowen,
George A. Buchanan.
William J. Clarke,
Mark L. A. Clougherty,
Thomas M. Conroy,
James A. Costello,
Edmond P. Crotty,
Thomas J. Crump,
Thomas J. Cummings,
Joseph P. Dempsey,
William H. Devin,
Charles F. Devlin,
William A. Dooley,
John F. Feehan,
John J. Feeney,
Anthony M. Flaherty,
Louis J. Fuller,
Joseph F. Haley,
Michael A. Horigan,
Joseph M. Hughes,
Charles Ingersoll, Jr.,
James F. Keating,
John J. Kelleher,
James A. Kelley,
Matthew J. Kenney,
James A. Lane,
Arthur J. Leary,
Maurice F. Lee,
William V. McCabe,
Daniel J. McDonough,
William P. McDonough,
William D. McDougall,
Patrick V. Morgan,
Thomas F. Morgan,
Francis A. Murray,
Lawrence J. Nagle,
Martin Nee,

Daniel S. O'Brien,
Thomas F. O'Conner,
Patrick V. O'Leary,
Charles E. Parent,
Richard N. Power,
John A. Powers,
William J. Robinson,
Daniel J. Shea,
Daniel L. Shea,
John J. Sheehan,
Edward L. Swanson,
William Swart,
Edward J. Walsh,
James Watson,
Francis J. Whitten.

LEWIS SCHOOL.

Boys.

Louis Abrams,
Robert C. Andrew,
Joseph Andrews,
Herbert C. Baker,
Louis H. Berger,
Harry H. Boyden,
Colin S. Clarke,
Herbert H. Clouston,
Fred. W. H. Crosby,
Frank A. Cuddihy,
Maurice Daniels,
Charles H. E. Doherty,
John B. Dunn, Jr.,
Edward R. Fogarty,
Lawrence R. Fraser,
Harry M. Freed,
James W. A. Fries,
Walter J. Gill,
Andrew B. Gilman,
Charles W. Harris,
George S. Hatch,
Frederick E. Johnston,
William E. Leggett,
Morris Lipp,
James G. McCormack,
Milton Meyer.

Walter W. Nichols,
 Anson W. Porter,
 Roy W. Porter,
 James C. Rae,
 Edward Raphael,
 Joseph E. Roek,
 Arthur T. Scott,
 Joseph E. Silva,
 Philip Slater,
 George S. Staniels.
 Peter A. Sullivan, Jr.,
 Arthur E. Swan,
 Warren L. Tufts,
 William L. Tufts,
 Joseph P. Vogel,
 Earle M. Vrooman,
 Albert L. Washburn,
 Harry A. Wilson,
 Arthur E. Wood.

Girls.

Katherine L. Andrews,
 Vivien L. Arnold,
 Beatrice Aston,
 Ethel Benson,
 Elise F. Berger,
 Annie W. Boulter,
 Louise V. Bowker,
 Alice J. Carney,
 Myrtle B. Childs,
 M. Georgie Clark,
 Alice E. Cleaves,
 Fannie F. Clement,
 Bertha Cohen,
 Mabel L. Cressey,
 Bessie E. Curtis,
 Margaret M. Dornbach,
 Harriett L. G. Foley,
 Mabelle B. Foster,
 Anna L. Hagar,
 Margaret E. Halligan,
 Florence A. Jacobson,
 Edna M. Jones,
 Ethel M. Kent,

Jessie G. Kinney,
 Florence A. Liverpool,
 Lillian B. Liverpool,
 Ethel E. Lowrie,
 Florence I. Margeson,
 Helen Newman,
 Eva Nurenberg,
 Margaret M. O'Brien,
 Ida C. Patten,
 Emma H. Rae,
 Florence E. Rand,
 Margaret V. Reardon,
 Mary L. Richardson,
 Ethel G. Safford,
 Leah Stack,
 Ida J. B. Strupney,
 Janet L. Thomson,
 Josephine E. Turell,
 Nellie B. Vose,
 Susie V. Waterman,
 Sarah Weber,
 Jennie M. Williams.

LINCOLN SCHOOL.

Boys.

Thomas J. Bateman,
 Laurence R. Clapp,
 James G. Comerford,
 Michael F. Condon,
 Charles R. Cox,
 William H. Doherty,
 Bernard Duffy,
 John J. Durick,
 Edward L. Foley,
 James R. Forsyth,
 Timothy Gallagher,
 Cecil J. Gibb,
 John J. Hartnett,
 William E. Hayes,
 John B. Hebbard,
 Charles S. Johnson,
 John J. Keefe,
 Fred W. Lockhart,
 Julius L. Margot,

Frank S. Moulton,
 Fred J. O'Brien,
 Arthur E. Ogden,
 Louis H. Ogden,
 William H. Ogden,
 John V. O'Malley,
 Louis P. Pieper,
 James M. Porter,
 Charles E. Thornton,
 Walter E. Tye,
 James M. Walsh,
 John F. Waters,
 Henry G. White,
 Chester J. Williams,
 Joseph F. Williams.

LOWELL SCHOOL.

Boys.

William H. Bleiler,
 Edmund A. Burke,
 George R. Digney,
 Adolf C. Doering,
 F. Oswald Fielder,
 Stephen Flanagan,
 Duncan J. Gillis,
 Benjamin Himmel,
 Francis J. Hughes,
 Robert H. Katzmann,
 George W. Ludwig,
 Rudolph D. Maier,
 George J. Magee,
 Adolf J. Merz,
 Edgar A. McLennan,
 Abram Miller,
 Charles W. Mock,
 Arthur E. Norley,
 Charles J. F. O'Brien,
 C. Ernest Perkins,
 Charles E. Richardson,
 John A. Schmidt,
 Charles P. Stokinger,
 Julius Van Hall,
 John L. Woods,
 Charles Wilson.

Girls.

Annie L. Aplin,
 Lillian M. Bigelow,
 Cathalena Burke,
 Olga M. Burkhardt,
 Margaret L. Carney,
 Edith A. Cotty,
 Mary A. Craven,
 Agnes Davidmeyer,
 Caroline P. Deininger,
 Ellen J. Dolan,
 Margaret E. Earley,
 Anne R. Edgerly,
 Mary Fitzgibbons,
 Mary E. Fitzgerald,
 Alice M. Fletcher,
 Roselia Fowler,
 Jeannette M. Griffin,
 Frances T. Helfrich,
 Clara L. H. Holmes,
 Johnina M. Johnson,
 Bessie E. Lambirth,
 Della F. McCombie,
 Susie F. Metzger,
 Alice T. Mullen,
 Loretta G. O'Connell,
 Ella F. Paskell,
 Gertrude A. Pommer,
 Bessie E. Ramsell,
 Bertha W. J. Rauh,
 Gertrude A. Stokinger,
 Amalia Tiews,
 Eleanor L. Whelan,
 Isabella T. Whitecross,
 Alice S. Woodman,

LYMAN SCHOOL.

Boys.

T. Edgar Bell,
 James Bradley,
 Frank A. Butler,
 John J. Carey,
 Daniel J. Cashman,
 Joseph T. Clifford,

John J. Coyle,
 James J. Fenelon,
 William H. Gibbons,
 Thomas A. Gildea,
 Donald M. Hastings,
 John W. J. Isaac,
 James J. Johnson,
 John J. Kelleher,
 John A. Lane,
 Arthur E. Lynch,
 George E. Mahoney,
 Wilbert McNeill,
 George F. F. Murray,
 Joseph H. Pender,
 Joseph D. Pimental,
 Edward W. Russell,
 Clyde W. Steeves,
 Henry P. Taylor,
 John J. Walsh.

Girls.

Lillian M. Adams,
 Nellie Delaney,
 Mabel F. Driscoll,
 Margaret A. Finn,
 Catherine S. Griffiths,
 H. Ethel Holmes,
 Eleanor G. Hunneman,
 Magdalene G. Jones,
 Mary A. G. Jones,
 Rose E. McKenna,
 Zephirina McManus,
 F. Olive McNaughton,
 Justine I. McNaughton,
 Dorenda Peers,
 Emogene B. Stuart,
 Ida M. Watts.

MARTIN SCHOOL.

Boys.

Harry V. Ball,
 Thomas J. Ball,
 Jacob Brack,
 Edward J. Demling,

Frank J. Dorr,
 Julius Fontaine,
 Robert C. Heyder,
 George A. Hurley,
 Joseph E. McCloskey,
 Evan R. Roberts,
 Charles W. Schayer,
 Frank P. Shea.

Girls.

Sarah L. Abbott,
 Maude F. Buchanan,
 Bridget A. Cahill,
 Elizabeth M. Cogan,
 Theresa M. Conroy,
 Mary L. Crowley,
 Agnes C. Doherty,
 Elizabeth A. Donovan,
 Jennie E. Glynn,
 Christana Hall,
 Josephine A. Hogan,
 Margaret A. Kelley,
 Caroline S. Lambert,
 Elizabeth A. Massey,
 Florence W. Naumann,
 Eva P. Ractliffe,
 Clara T. Somerville,
 Elizabeth Tobelmann,
 Regina Wolff.

MATHER SCHOOL.

Boys.

John A. Anderson,
 George G. Baker,
 Arthur Billcliff,
 Abraham Blumenthall,
 James H. Brady,
 James S. Carey,
 Ira F. Cobe,
 John F. Crowley,
 Henry J. Dixon,
 William A. Donovan,
 James H. Dorsey,
 George F. Dunican,

Edward J. Duran,
 John W. Finnegan,
 Joseph J. Freeman,
 Thomas F. J. Going,
 Henry F. Grouse,
 Percy D. Hamilton,
 Robert E. A. Harney,
 Lewis L. James,
 John M. Kelly,
 Frank S. Magee,
 Thomas J. Magner,
 John H. Mara,
 John J. McCormack,
 James P. Mitchell,
 Patrick J. Mullin,
 Lawrence W. Newell,
 Henry R. Noble,
 James F. Place,
 Benjamin H. Ring,
 Israel Rosnosky,
 Richard C. Sharman,
 Daniel B. Sheehan,
 Sidney A. Storer,
 George F. Wall,
 Carl F. A. Wasserboehr,
 Thomas F. White.

Girls.

Florence B. Amsden,
 Mardilena L. Bird,
 Eunice C. Blaney,
 Georgie Bradshaw,
 Edith J. Bunten,
 Blanche Burdick,
 Annie J. Callahan,
 Mary J. Caston,
 Helen A. Casey,
 Mary W. Cavanagh,
 Catherine V. Conroy,
 Mary J. Corbett,
 Ellen C. Crowley,
 Mary A. Cullen,
 Sarah F. Cullen,
 Laura F. Curry.

Annie M. DeLue,
 Mary L. Dixon,
 Annie A. Donahoe,
 Mary J. F. Donnelly,
 Ethel D. Fernald,
 Carrie E. Frohwitter,
 Mary J. Haggerty,
 Katherine C. Hart,
 Margaret V. Holloran,
 Jennie E. Kelley,
 Edith A. Lavalette,
 Carrie W. Leavitt,
 Edith M. Levy,
 Josephine A. Magner,
 Katherine H. McCarty,
 Mary J. McCarty,
 Grace C. G. McDonald,
 Marcella McDonald,
 Adeline M. Norton,
 Annie T. Powers,
 Harriet E. Rohan,
 Rachel Rosnosky,
 Edna J. Ross,
 Emily N. Sanford,
 Margaret M. Sullivan,
 Elizabeth A. Truman,
 Eva C. Wood,
 Agnes Woodhead.

MINOT SCHOOL.

Boys.

John A. Allerby,
 John P. Crowley,
 Timothy F. Donovan,
 Colin Dunn,
 Joseph E. Fitzgerald,
 Michael F. Glynn,
 Herbert A. Hechinger,
 William G. Hill,
 Ernest E. Lothrop,
 Roy M. Lothrop,
 Frederick L. Mason,
 Joseph B. McAndrew,
 William P. Meleedy,

Peter J. Minton,
George F. Morse,
Thomas F. Murray,
Charles D. L. Pope,
Michael J. Quilty,
Arthur F. Raymond,
Edward Scarry,
William M. Scarry,
Henry W. Whitmarsh,
Francis H. Wilson.

Girls.

Alice F. Adams,
Agnes H. Connor,
M. Beatrice Dacey,
Delia A. Daley,
Margaret E. Daley,
Anna L. Flanagan,
Susan A. Hight,
Agnes E. Mason,
Grace E. Munier,
Jessie L. Nolte,
Caroline A. Packard,
Effie M. Priest,
Alice M. Roberts,
Mary E. Shepherd,
Lena M. Wallis.

NORCROSS SCHOOL.

Girls.

Johanna V. Bassity,
Susan M. Burns,
Alice J. Clasby,
Laura E. Connolly,
Augusta Cook,
Ellen V. Curran,
Lillian F. Donnelly,
Mary E. L. Dorney,
Helen C. Dugan,
Catherine G. Gookin,
Justina J. B. Holderried,
Eliza T. McBrine,
Catherine M. McCarthy,
Georgietta J. McCauley.

Anna M. A. Monaban,
Anna G. Murphy,
Bridget J. Neary,
Catherine A. O'Brien,
Julia F. O'Brien,
Anna J. O'Donnell,
A. Emmogene Pierce,
Agnes B. Power,
Elizabeth F. Reddick,
Minnie I. Richberg,
Bertha F. Robinson,
Alice E. Roche,
Mary C. Shallow,
Margaret E. Stack,
Catherine A. Sullivan,
Elizabeth M. Sullivan,
Hannah Virgo,
Anna M. E. Weigel,
Ellen G. Welch.

PHILLIPS SCHOOL.

Boys.

Charles B. Adams,
Francis J. Barry,
Francis P. Bergen,
Frederick W. Brooks,
George E. Brown,
Leslie M. Curtis,
Eugene J. Dailey, Jr.,
Francis Donovan,
James E. Doyle,
James T. Doyle,
William H. Farr,
Charles A. Ferrin,
Patrick A. Gargan,
David M. Goldstein,
LeRoy A. Grant,
Abraham Green,
James A. Greene,
Jacob Grife,
James S. Hallahan,
William D. Hanley,
Daniel P. Healey,
George B. Hemming,

Morris M. Hermann,
 Thomas W. Hoctor,
 Frank F. Hogg,
 Bertram E. Kellogg,
 Abraham Leventall,
 James J. Macksey,
 George G. Maddock,
 Henry C. McKenna,
 David L. Miller,
 Walter H. Nolan,
 Bernard F. O'Hayre,
 James L. Pierce,
 George J. Riley,
 Charles H. Robbins,
 Israel Robinson,
 Reuben T. Robinson,
 Samuel Robinson,
 Hyman E. Spektorsky,
 Otto E. Vary,
 Samuel Vatala,
 Richard H. Walsh,
 James W. Warren,
 Joseph B. Wood.

PRESCOTT SCHOOL.

Boys.

Otto Abrahamsen,
 Harry E. Abrams,
 Walter J. Baston,
 Frederick L. Bogan,
 John W. Bowdren,
 Joseph H. Breen,
 Francis J. Casey,
 Lester W. Cogswell,
 James W. Colson,
 Lyman S. Copithorne,
 James E. Cox,
 John M. Cross,
 James L. Graham,
 Edward H. M. Harrington,
 Frank Johnson,
 George W. Leach,
 Norman L. Macdonald,
 George S. Martell,

Robert A. McGee,
 John F. O'Flanagan,
 Arthur H. Sheridan, Jr.,
 Richard H. Stout,
 William H. Sullivan,
 Frank J. Tilden.

Girls.

Grace H. Ackerman,
 Gertrude A. Anderson,
 Annie E. Butler,
 Josephine A. Colgan,
 Annie L. Crown,
 Alice A. Doyle,
 Mary A. Gallagher,
 Alice M. Golden,
 Josephine V. Harrington,
 Annie M. Herlihy,
 Mary E. Holman,
 Sarah A. Hunter,
 Anna C. Kenny,
 Suzene M. Macdonald,
 Josephine A. Martin,
 Margaret L. McGlenn,
 Helen L. McMakin,
 Grace W. Mooney,
 Mary L. Murphy,
 Helen A. O'Neill,
 Carrie J. Pigott,
 Alice M. Redford,
 Avadne I. Ryan,
 Ethel L. Spooner,
 Eva G. Sprague.

PRINCE SCHOOL.

Boys.

Herman M. Blumenthal,
 James A. Burgess,
 Ambrose S. Dowling,
 Harold A. Everett,
 Carroll A. Frisbie,
 Harry I. George,
 Louis Hano, Jr.,
 George S. Hathaway,

Stuart L. Howes,
 Franklin B. Huntress,
 George A. Johnson,
 Michael F. Kelly,
 Louis F. Macbrien,
 William H. Mayo,
 Albert S. Olsson,
 Heyward M. Ormond,
 Edwin Robbins, Jr.,
 Arthur D. Ronimus,
 James W. Savage,
 Philip B. Simonds,
 Albert G. Smart,
 Albert W. Stetson,
 Samuel L. Troeder,
 Frank Wilcox.

Girls.

Rosalind L. Adams,
 Mary E. Annable,
 Edith Balch,
 Bessie Baylis,
 Helen K. Brainerd,
 Florence Brown,
 Margaret Buckingham,
 Lillian M. Burley,
 Gertrude E. Covell,
 Ethel A. Cutler,
 M. Edwina Davis,
 Ruth Forster,
 Jennie Hand,
 Florence D. Hano,
 Marion C. Hanson,
 Alma M. Hartson,
 Elizabeth Henkel,
 Eleanor L. Holton,
 A. Mabel Igoe,
 Hilda C. Johnson,
 Agnes M. Lake,
 Lillian F. Lamkin,
 J. Cecile Lovell,
 Lula Martin,
 Louise P. McCandlish,
 Grace D. Melvin,

Helen C. Needham,
 Florence E. Newton,
 Jennie M. Phinney,
 Isabel P. Rankin,
 Ethel A. Reardon,
 Marion J. Redfearn,
 Jennie K. Rittenhouse,
 Gertrude S. Sands,
 Lillian Smith,
 Lotta P. Smith,
 Mary L. Soule,
 Irene A. A. Thompson,
 Delia A. Tudor,
 Susie S. Viles,
 Elizabeth M. Voss,
 Annie L. Walley,
 Helen S. Webb,
 Selma C. Weil,
 Marion R. Weymouth,
 Helen H. Wingate,
 Dora A. Winn,
 Blanche Yates.

QUINCY SCHOOL.

Boys.

Francis P. Aieta,
 William H. A. Barker,
 Oliver Barrant,
 Edward J. Barry,
 Thomas H. Bendon,
 Morris Blumberg,
 Timothy F. Callahan,
 Daniel W. Coleman,
 Thomas P. J. Curley,
 Matthew J. Dacey,
 James J. T. Donovan,
 John J. Dowling,
 Samuel Dreayer,
 Leo D. Driscoll,
 Thomas J. Fitzgerald,
 John P. Flynn,
 John J. Gallagher,
 John J. Hogan,
 Francis P. A. Kennedy,

John L. Leach,
 Eugene L. McCarthy,
 George F. McCarthy,
 James A. McIntyre,
 Michael Meyers,
 John P. Murray,
 Michael L. O'Brien,
 Francis A. O'Hara,
 Abraham H. Radlo,
 Alexander A. Stewart,
 Jeremiah A. Sullivan,
 John J. Sullivan,
 John J. Sullivan,
 William C. A. Sullivan,
 William J. L. Sullivan.

RICE TRAINING SCHOOL.

Boys.

Emmett D. Angell,
 John J. Ayer,
 Benjamin F. Barnard,
 Edwin R. Barrington,
 Beaconsfield B. Bate,
 Wilton L. Bates,
 Benjamin F. Bilafsky,
 Arthur M. Brown,
 Henry W. Buhler,
 Fred J. Butrick,
 Charles D. Campbell,
 John L. Canavan,
 Joseph A. Corcoran,
 John F. Daly,
 Augustus L. Erhardt,
 Evan H. Evans,
 Edward P. Faulkner,
 William H. Goodhue,
 Harold T. Hall,
 Euclid T. Hodsdon,
 John A. Horgan,
 Richard T. Jackson,
 John A. Kilroy,
 George W. Kimney,
 Elliot W. Knight,
 Walter Lenk,

Harry V. Lenihan,
 Hans Lippoldt,
 John J. Liston,
 Everett E. Marden,
 Francis E. Merriman, Jr.,
 Abraham Myerson,
 Harold S. Perkins,
 Earle R. Potter,
 Ralph Taylor,
 Edward D. Wright.

ROBERT G. SHAW SCHOOL.

Boys.

Cornelius G. Atwood,
 Ernest F. Campbell,
 Walter G. Conway,
 William E. Getchell,
 H. Leon Hentz,
 John E. Lown,
 Henry Manley, Jr.,
 Henry J. Manning,
 G. Carlyle Martin,
 Jack L. Martin,
 Waldo G. Redonnet,
 Thomas S. Spinney,
 John S. Stressenger,
 Daniel J. Sullivan,
 Frank J. Weston,
 Walter M. Whiting.

Girls.

Mary L. Carroll,
 Georgia R. Crawley,
 M. Estella Davis,
 Susan M. Devney,
 Mary B. Field,
 Jennie A. Hanrahan,
 Eleanor E. Kelley,
 L. Christine Lewis,
 Mabel C. Macomber,
 Nellie S. Morris,
 Jennie F. Riley,
 Annie M. Roth,
 Katherine A. Welch.

SHERWIN SCHOOL.

Boys.

James B. Allen,
 Louis G. Bachner,
 Harold E. Ballou,
 Alexander M. Berger,
 Thomas F. Ducie,
 E. Selwyn Duggan,
 William H. Fay,
 John K. Germond,
 Frank Goode,
 John H. Goode,
 Alfred A. P. Govan,
 Nils G. Gustafson,
 Alfred J. Hermanson,
 Warren T. Hineckley,
 George W. Holden,
 Michael J. Hurley,
 James R. Judge,
 John H. Kennedy,
 John L. Kenney,
 Albert E. Levin,
 Samuel Levin,
 Sylvester Lokke,
 Hugh L. Marshall,
 James McLaughlin,
 Hubert I. Mellyn,
 John J. Morrison,
 James E. Murray,
 Frank M. Nicholson,
 Carl T. Nordberg,
 Walter A. O'Hara,
 Timothy A. Reagan,
 William J. A. Schafer,
 Frank W. Simmonds,
 Patriek F. Sutton,
 Cornelius J. Sullivan,
 Dana R. Treat,
 John P. J. Walsh,
 William H. Whitecomb,
 Harry E. Willis,
 Victor Williamson.

SHURTLEFF SCHOOL.

Girls.

Carrie M. Acker,
 Jessie M. Bowman,
 Adeline E. Burdick,
 Isabel Campbell,
 Lucy J. Clapp,
 Margery F. Coakley,
 Minnie J. Cole,
 Maude E. Cook,
 Elizabeth M. Cully,
 Margaret M. Cunningham,
 Loretta Curran,
 Margaret M. Daly,
 Mary A. Davis,
 Minnie G. Davis,
 Agnes F. Duffin,
 Flora A. Everson,
 S. Evelyn Faber,
 Agnes G. Ferris,
 Agnes E. Fletcher,
 Jennie M. Giddings,
 Gertrude L. Graves,
 Edna L. Gray,
 Georgie F. Griefenhagen,
 Jennie P. Grose,
 Mabel R. Harris,
 Alice E. Higgins,
 Estelle Hooley,
 Daisy M. Jones,
 Mary C. Kelleher,
 Florence M. Kelly,
 Anna V. King,
 Isabelle Lindsay,
 Annie L. McCarthy,
 Margaret J. McCarthy,
 Catherine F. McGinn,
 Mary Z. Merrill,
 Catherine E. Moran,
 Evelyn M. Moynihan,
 Hannah E. Murchie,
 Mary E. Noonan,

Gertrude A. O'Bryan,
 Catherine M. O'Leary,
 Mildred E. Page,
 Jeannette B. Prohaska,
 Mary E. Shaughnessy,
 Ethel M. Sheene,
 Florence E. Smith,
 Mattie M. Smith,
 Mabel L. Sprague,
 Mary R. Stapleton,
 Hannah A. Stout,
 Mary F. Sullivan,
 Alice F. Sumner,
 Bessie E. Tilden,
 Gertrude M. Trainor,
 Anna M. Walsh,
 Mattie E. Wenzel,
 Cora W. Wheeler,
 Jennie M. White,
 Ethel M. Willson.

STOUGHTON SCHOOL.

Boys.

Frank D. Bartlett,
 Volney D. Caldwell,
 James E. Hansbury,
 Arthur H. Hutchinson,
 Harry R. King,
 William H. Korb,
 Adam Law,
 C. William R. McDonald,
 Philip R. Spargo,
 Nathaniel W. Talbot.

Girls.

Leona E. Carl,
 Mary Chamberlain,
 Beatrice L. Chute,
 Lena G. Crane,
 Anna Cavanagh,
 Genevieve R. Cavanagh,
 Annie Desmond,
 Blanche G. Dinsmore,
 M. Frances Edwards,

Sadie B. Gilpatric,
 Annie M. Hoye,
 Blanche L. Hutchinson,
 Annie S. Johnson,
 Mary T. Law,
 Mary L. Lyons,
 Eva M. Mason,
 Ida H. Mason,
 Edna F. McGrath,
 Florence J. Monk,
 Mabel L. Monk,
 Ellen W. Phillips,
 Ida T. Spargo,
 Winefred M. Sumner,
 Julia Thatcher,
 Beth I. Thompson.

THOMAS N. HART SCHOOL.

Boys.

William E. Anderson,
 Henry E. Bispham,
 Alfred W. Bosworth,
 Walter F. Brown,
 Kingsley A. Burnham,
 William F. Butler,
 Fred W. Capel,
 George S. Cole, Jr.,
 Joseph L. Crowley,
 Victor A. Davis,
 John H. DeVoy,
 Charles A. Emery,
 Roscoe E. Estes,
 Maurice G. Evatt,
 John J. Fahey, Jr.,
 John B. Geroir,
 Ralph H. Hallett,
 Charles A. Hunnefeld,
 Joseph H. Hunnefeld,
 Herbert J. James,
 William J. A. Kelleher,
 Thomas J. Lally, Jr.,
 Gerard P. Lawton,
 James J. Mackin,
 Herbert T. McArdle,

August C. Meyers,
Joseph L. O'Brien,
Percy Porter,
Daniel J. Prendergast,
Eustace A. Queen,
Arthur F. Robinson,
John A. Roche,
Leo F. Ryder,
Campbell D. Shaw,
Frank D. Slattery,
Edward F. Timmins,
James G. B. Walker,
Fred O. Watt,
Benjamin F. Williams,
Frederic R. Williamson, Jr.

TILESTON SCHOOL.

Boys.

William Donovan,
Rollin H. Fisher,
Edwin S. Murray,
Charles R. Potter,
Harry G. Whittredge.

Girls.

Mary I. Cross,
Daisie A. Gould,
Eulalie Hammersley,
Eva R. Jackson,
Mabel B. Morrill,
Ida M. Page,
A. Eloise Sparks.

WARREN SCHOOL.

Boys.

Edmund B. Bradford,
Dexter E. Brown,
Archie W. Chick,
William C. Coleman,
Harry F. Crosby,
Harry H. Dunbar,
Albert E. Garland,
Bruce O. Gilchrist,

Roy S. Gilchrist,
Lyman E. Goss,
Frank A. Hamilton,
Arthur McBride,
Benjamin F. Pearce,
William Sawyer, Jr.,
Ernest L. Seavey,
Herbert H. Tripp,
Charles F. Underhill,
Orson W. Watts,
Charles F. Wellington,
Harry A. White,
Charles O. Wood.

Girls.

Mary M. Brown,
Stella W. Bullock,
Florence G. Cady,
Helen M. Dearborn,
Bertha F. Dodge,
Emma Drew,
Elizabeth E. Dunn,
Marion Eaton,
Alice G. Elwood,
Alice E. Evans,
Catherine C. Falvey,
Edith E. Fox,
Florence A. Glass,
Edith L. Holmes,
Ruth R. Hopps,
Ida M. Kolb,
Eunice L. Langdon,
Kathleen St. C. Macdonald,
Maria L. Nason,
Cecilia F. Nixon,
Gertrude F. Ogilvie,
Blaid B. O'Reilly,
Lottie G. Reed,
Flora M. Rose,
Ada M. Sargent,
Maud S. Stevens,
Ethel B. Webster,
Carrie M. Wellington,
Annie M. Witham.

WASHINGTON ALLSTON
SCHOOL.

Boys.

Arthur B. Allen,
Carl Anred,
Clarence V. Baldwin,
George A. Barrow,
Horace E. Bellows,
William F. Brennan, Jr.,
Louis K. Brown,
Henry M. Crane,
Charles Cunningham,
Thomas F. Dolan,
Joseph R. Eckman,
John D. Flynn,
Chauncey O. Garritt,
Joseph E. Green,
Merrill M. Hammond,
George W. Henderson,
Henry Z. Kelly,
Richard Kingston,
Walter A. Lambert,
William C. Lounsbury,
John Mackenzie,
Fred F. Mattison,
John E. Mattison,
Clarence O. Merrifield,
Leon P. Mitchell,
John H. Morrissey,
John F. Morey,
Richard S. Morley,
John J. Murphy,
Richard F. Murphy,
James A. O'Donnell,
Lewis E. Stearns,
Edgar R. Turner,
Charles H. Wainwright,
William B. Wall,
Samuel T. Williams,
Clarence P. Woodbury,
William E. Wynne,
James W. Young.

Girls.

Louise W. Adams,
Frances Baker,
Georgia M. Bradford,
Katherine G. Bresnahan,
Maud M. Burrows,
Mary A. Chapman,
Margaret J. Clement,
Gertrude M. Coburn,
Margaret A. Cullen,
Katherine A. Donahue,
Margaret E. Donahoe,
Bessie A. Earl,
Bernice P. Edmands,
Anastasia M. Egan,
Louise M. Evans,
Grace I. Felton,
Mary G. Finnegan,
Mary A. Fisher,
Helen A. Fleming,
Mabel F. Foster,
Alice M. Gassette,
Ida L. Hamilton,
Florence E. Heath,
Ida M. Henderson,
Maidie W. Hibbard,
Goldie T. Huntley,
Helen M. Jennings,
Sadie A. Johnson,
Elizabeth M. Keefe,
May J. Keegen,
Edith A. Kelly,
Bertha Kenison,
Annie C. Kennedy,
Marguerite Kimball,
Agnes T. Laffey,
Anna A. Lillis,
Josephine E. Murphy,
Mabel B. Newcomb,
Hattie I. Parker,
Winifred G. Ryan,
Helen J. Sawin,
Marie L. Small,
Emma L. Stahlman,

Florence A. Starkey,
 Mabel I. Stearns,
 Margaret C. Sullivan,
 Mary A. Wagner,
 Mabel M. Waterhouse,
 Frances E. Webster,
 Louise J. White,
 Blanche E. Wiles,
 Winnifred Williams,
 Helen G. Winch,
 Ella L. Wright,
 Nellie E. Wright,
 Edith M. L. Wroth.

WELLS SCHOOL.

Girls.

Nancy Anderson,
 Etta C. Arkin,
 Catherine A. Barry,
 Cora M. Butler,
 Julia L. Crowley,
 Evelyn Danziger,
 Bertha M. Dildine,
 Alice V. Doyle,
 Maria C. Farley,
 Deborah A. Freeman,
 Katharine J. Freestone,
 Lillie Goldstein,
 Margaret M. Howard,
 Louisa J. Ingalls,
 Helen Leftovith,
 Hannah A. Masterson,
 Ellen F. McCaffrey,
 Catherine F. McCarthy,
 Clara E. Melzard,
 Frances M. Murphy,
 Margaret F. Perkins,
 Maud M. Pittman,
 Isabell F. Quigley,
 Sarah F. Reed,
 Marie Schön,
 Alice G. Sheehan,
 Mary Skibelsky,
 Catherine Smith,

Elizabeth Sullivan,
 Ida White.

WINTHROP SCHOOL.

Girls.

Jennie Baron,
 Josephine M. Barrett,
 Josephine Blume,
 Theresa Boas,
 Helen L. Bond,
 Rosie C. Brion,
 Bridget T. Buckley,
 Mary E. Casey,
 Amanda M. Celler,
 Lillian M. Cohn,
 Margaret E. Connell,
 Annie F. Conway,
 Mary A. Diggins,
 Winifred A. Donovan,
 Margaret S. Dwyer,
 Rachel A. Elwell,
 Edith E. Felt,
 Mary M. Foley,
 Eva F. Gallagher,
 Mary J. Galligan,
 Mary C. Gamage,
 Mary A. Geavin,
 Eva Goldstein,
 Emma G. Green,
 Georgiana G. Hahn,
 Theresa S. Haley,
 Harriette R. Henderson,
 Edith M. Holway,
 Lillian L. Hughes,
 Theodosia E. Johnson,
 Annie A. Kenney,
 Rhoda Lande,
 Elizabeth F. Lannin,
 Ella Lee,
 Josephine C. Lithgow,
 Bertha B. Marcus,
 Catherine E. McBrearty,
 Martha McCullagh,
 Edith B. McDevitt,

Lauretta M. McGarry,
Pauline H. McKenny,
Mary C. Melvin,
Lonisa P. Moltedo,
Mary E. Naughton,
Margaret F. O'Donnell,
Emma T. Quealey,
Auguste S. Reinhard,

Alice H. Scully,
Annie A. Shea,
Mary F. Shea,
Elizabeth M. Sullivan,
Mary A. Sullivan,
M. Grace Walsh,
Margaret Watson,
Florence Witherington.

ORGANIZATION
OF
SCHOOL COMMITTEE
FOR
1895.

SCHOOL COMMITTEE, 1895.

[Term expires January, 1896.]

Willard S. Allen, †	Isaac F. Paul, †
William T. Eaton, †	Fred G. Pettigrove,
Caroline E. Hastings, †	Benjamin B. Whittemore, †
Elizabeth C. Keller, †	J. P. C. Winship. †

[Term expires January, 1897.]

Alfred Blanchard, †	Henry D. Huggan, †
Edward H. Dunn, †	James A. McDonald, †
Emily A. Fifield, †	S. Albert Wetmore, †
George R. Fowler, †	Samuel H. Wise. †

[Term expires January, 1898.]

George Z. Adams,	William J. Gallivan, †
George W. Anderson, †	Gustav Liebmann, †
Samuel H. Calderwood, †	Walter Gilman Page, †
Archibald T. Davison, †	Thomas F. Strange. †

OFFICERS OF THE BOARD.

President.

FRED G. PETTIGROVE.

Secretary.

PHINEAS BATES.

Auditing Clerk.

WILLIAM J. PORTER.

Superintendent of Schools.

EDWIN P. SEAVER.

Supervisors.

ELLIS PETERSON,
ROBERT C. METCALF,
GEORGE H. CONLEY,

GEORGE H. MARTIN,
WALTER S. PARKER,
SARAH L. ARNOLD.

Messenger.

ALVAH H. PETERS.

STANDING COMMITTEES.

- ACCOUNTS. — Edward H. Dunn, *Chairman*; Messrs. Whittemore, Allen, Winship, and Gallivan.
- ANNUAL REPORT. — Willard S. Allen, *Chairman*; Messrs. Wetmore and Anderson.
- DRAWING. — James A. McDonald, *Chairman*; Miss Hastings, Messrs. Paul, Page, and Davison.
- ELECTIONS. — J. P. C. Winship, *Chairman*; Messrs. Davison and Liebmann.
- EVENING SCHOOLS. — Isaac F. Paul, *Chairman*; Messrs. Calderwood, Allen, Anderson, and Gallivan.
- EXAMINATIONS. — Elizabeth C. Keller, *Chairman*; Messrs. Strange, Winship, Wetmore, and Adams.
- HORACE MANN SCHOOL. — Elizabeth C. Keller, *Chairman*; Messrs. Huggan and Blanchard.
- HYGIENE AND PHYSICAL TRAINING. — Caroline E. Hastings, *Chairman*; Mrs. Keller, Messrs. McDonald, Winship, and Calderwood.
- KINDERGARTENS. — Emily A. Fifield, *Chairman*; Mrs. Keller, Messrs. Eaton, Page, and Dunn.
- LEGISLATIVE MATTERS. — George R. Fowler, *Chairman*; Messrs. Strange and Pettigrove.
- MANUAL TRAINING. — Emily A. Fifield, *Chairman*; Messrs. Wetmore, Page, Pettigrove, and Adams.
- MUSIC. — Benjamin B. Whittemore, *Chairman*; Mr. Huggan, Mrs. Fifield, Messrs. Anderson and Liebmann.
- NOMINATIONS. — Caroline E. Hastings, *Chairman*; Messrs. McDonald, Allen, Eaton, and Blanchard.
- RULES AND REGULATIONS. — George R. Fowler, *Chairman*; Mrs. Fifield, Messrs. Pettigrove, Adams, and Gallivan.
- SALARIES. — Henry D. Huggan, *Chairman*; Messrs. Wise, Fowler, Wetmore, and Liebmann.
- SCHOOL-HOUSES. — William T. Eaton, *Chairman*; Messrs. Strange, Dunn, Fowler, and Whittemore.
- SUPPLIES. — Samuel H. Wise, *Chairman*; Messrs. Huggan, Blanchard, Calderwood, and Davison.
- TEXT-BOOKS. — James A. McDonald, *Chairman*; Mrs. Keller, Miss Hastings, Messrs. Allen and Anderson.
- TRUANT-OFFICERS. — James A. McDonald, *Chairman*; Messrs. Wise, Calderwood, Blanchard, and Adams.

NORMAL, HIGH SCHOOL, AND DIVISION COMMITTEES.

NORMAL SCHOOL. — J. P. C. Winship, *Chairman*; Mr. Adams, Mrs. Fifield, Messrs. Fowler and Strange.

HIGH SCHOOLS. — Benjamin B. Whittemore, *Chairman*; Messrs. Allen, Calderwood, Paul, and Pettigrove.

FIRST DIVISION. — Willard S. Allen, *Chairman*; Messrs. Blanchard, Davison, Huggan, and McDonald.

SECOND DIVISION. — James A. McDonald, *Chairman*; Mr. Allen, Mrs. Fifield, Messrs. Pettigrove and Whittemore.

THIRD DIVISION. — Isaac F. Paul, *Chairman*; Messrs. Anderson, Blanchard, Huggan, and Wise.

FOURTH DIVISION. — Alfred Blanchard, *Chairman*; Messrs. Anderson, Dunn, Page, and Wetmore.

FIFTH DIVISION. — Caroline E. Hastings, *Chairman*; Messrs. Dunn, Liebmann, Paul, and Wetmore.

SIXTH DIVISION. — William T. Eaton, *Chairman*; Messrs. Davison, Gallivan, Liebmann, and Wise.

SEVENTH DIVISION. — George Z. Adams, *Chairman*; Messrs. Calderwood, Eaton, Miss Hastings and Mr. Strange.

EIGHTH DIVISION. — Elizabeth C. Keller, *Chairman*; Messrs. Calderwood, Fowler, Page, and Winship.

NINTH DIVISION. — Emily A. Fifield, *Chairman*; Mr. Gallivan, Mrs. Keller, Messrs. Strange and Whittemore.

SCHOOLS.

Normal School and Rice Training School.

Latin School, Girls' Latin School, English, Girls', Roxbury, Dorchester, Charlestown, West Roxbury, Brighton, East Boston, and Mechanic Arts High Schools.

GRAMMAR SCHOOLS.

First Division. — Adams, Chapman, Emerson, Lyman.

Second Division. — Bunker Hill, Frothingham, Harvard, Prescott, Warren.

Third Division. — Bowdoin, Elliot, Hancock, Phillips, Wells.

Fourth Division. — Brimmer, Prince, Quincy, Winthrop.

Fifth Division. — Dwight, Everett, Franklin, Hyde, Sherwin.

Sixth Division. — Bigelow, Gaston, John A. Andrew, Lawrence, Lincoln, Norcross, Shurtleff, Thomas N. Hart.

Seventh Division. — Comins, Dearborn, Dillaway, Dudley, George Putnam, Hugh O'Brien, Lewis, Martin.

Eighth Division. — Agassiz, Bennett, Bowditch, Charles Sumner, Lowell, Robert G. Shaw, Washington Allston.

Ninth Division. — Edward Everett, Gibson, Harris, Henry L. Pierce, Mather, Minot, Stoughton, Tileston.

SUPERINTENDENT OF SCHOOLS.

Edwin P. Seaver, Waban, Mass. Office hours: Mondays to Fridays, 1 to 2 P.M.

BOARD OF SUPERVISORS.

Ellis Peterson, 305 Chestnut av., near Green st., Jamaica Plain. Office hour, Thursday, 4.30 to 5.30 P.M.

Robert C. Metcalf, 32 Alaska st., Roxbury. Office hour, Saturday, 11 A.M. to 12 M.

George H. Conley, Osborn road, Brookline. Office hour, Monday, 4.30 P.M.

George H. Martin, 388 Summer st., Lynn. Office hour, Thursday, 4.30 to 5.30 P.M.

Walter S. Parker, Reading. Office hour, Wednesday, 4.30 to 5.30 P.M.

Sarah L. Arnold. Office hour, Wednesday, 4.30 to 5.30 P.M.

Regular meetings of the Board of Supervisors on the Monday following each regular meeting of the School Committee, at 9 o'clock A.M.

Office hours of Supervisors at School Committee building.

SUPERVISORS OF SCHOOLS.

Ellis Peterson. — Latin, Girls' Latin, Brighton, Charlestown, Dorchester, East Boston, English, Girls', Roxbury, West Roxbury High, and Horace Mann Schools; Districts: Agassiz, Bowditch, Charles Sumner, and Robert G. Shaw. Grammar classes of Lowell District,

Robert C. Metcalf. — Districts: Edward Everett, George Putnam, Gibson, and Martin. Grammar classes of Comins, Dearborn, Dillaway, Dudley, Dwight, Everett, Franklin, Hugh O'Brien, Hyde, Lewis, Mather, Quincy, and Sherwin Districts.

George H. Conley. — Mechanic Arts High School; Districts: Bigelow, Gaston, John A. Andrew, Lawrence, Lincoln, Norcross, Shurtleff, Thomas N. Hart, and Winthrop. Wood-working Schools.

George H. Martin. — Normal and Rice Training Schools; Spectacle Island School. Districts: Adams, Bunker Hill, Chapman, Emerson, Frothingham, Harvard, Lyman, Prescott, and Warren. Primary classes of Quincy District.

Walter S. Parker. — Districts: Bennett, Bowdoin, Brimmer, Eliot, Hancock, Phillips, Prince, Washington Allston, and Wells.

Sarah L. Arnold. — Districts: Harris, Henry L. Pierce, Minot, Stoughton, and Tileston. Primary classes of Comins, Dearborn, Dillaway, Dudley, Dwight, Everett, Franklin, Hugh O'Brien, Hyde, Lewis, Lowell, Mather, and Sherwin Districts.

Kindergartens are assigned to the Supervisors of the primary classes of the districts in which the Kindergartens are located.

NORMAL SCHOOL.

Corner of Dartmouth and Appleton streets.

Head-Master. — Larkin Dunton. *Sub-Master.* — Wallace C. Boyden. *1st Assts.* — L. Theresa Moses, Katherine H. Shute. *2d Assts.* — Dora Williams, Laura S. Plummer, Almira I. Wilson, Alice M. Dickey, Fanny E. Coe. *Special.* — Harriet A. Neil, Sally Fairchild, Henry W. Poor.

RICE TRAINING SCHOOL. (Boys.)

GRAMMAR.

Corner of Dartmouth and Appleton streets.

Master. — Lincoln Owen. *Sub-Masters.* — Charles F. Kimball, Joseph L. Caverly. *1st Asst.* — Florence Marshall. *2d Assts.* — Mary E. Mailman, Ella T. Gould, Dora Brown, Margaret A. Leahy, Lotta A. Clark, Edith F. Parry. *3d Assts.* — L. Eliza Cox, Mattie H. Jackson. *Janitor.* — Thomas F. Durkin.

PRIMARY.

1st Asst. — Gertrude E. Bigelow. *2d Assts.* — Mabel I. Emerson, Eleanor F. Lang, Alice M. May, Gertrude R. Clark. *3d Assts.* — Sarah E. Bowers, Emma L. Wyman, Clara C. Dunn. *Janitor.* — George W. Collings.

KINDERGARTEN.

Principal. — Caroline D. Aborn. *Asst.* — Isabel C. French.

LATIN AND HIGH SCHOOLS.

PUBLIC LATIN SCHOOL. (Boys.)

Warren avenue.

Head-Master. — Moses Merrill. *Masters.* — Charles J. Capen, Arthur I. Fiske, Joseph W. Chadwick, Byron Groce, Frank W. Freeborn, Edward P. Jackson, John K. Richardson, Grenville C. Emery, George W. Rollins. *Junior-Masters.* — Henry C. Jones, Francis DeM. Dunn, Henry Penny-packer, William T. Campbell, William R. Morse, Selah Howell, Henry E. Fraser, Walter A. Robinson. *Janitor.* — Matthew R. Walsh.

GIRLS' LATIN SCHOOL.

West Newton street.

Head-Master. — John Tetlow. *Master.* — Edward H. Atherton. *Assistants.* — Jane R. Sheldon, Jessie Girdwood, Mary C. C. Goddard, Mary J. Foley, Florence Dix, Ellen C. Griswold, Abby C. Howes, Helen A. Stuart. *Vocal and Physical Culture.* — Ruth B. Whittemore. *Janitor.* — John Murphy, Jr.

ENGLISH HIGH SCHOOL. (Boys.)

Montgomery street.

Head-Master. — Robert E. Babson. *Masters.* — Charles B. Travis, Alfred P. Gage, John F. Casey, Jerome B. Poole, S. Curtis Smith, William H. Sylvester, Rufus P. Williams, William T. Strong. *Junior Masters.* — Frank O. Carpenter, Melvin J. Hill, James E. Thomas, George W. Evans, William B. Snow, James A. Beatley, Albert P. Walker, Charles P. Lebon, Henry C. Shaw, James Mahoney, Joseph Y. Bergen, Jr., Samuel F. Tower, Henry M. Wright, Edward H. Cobb, Charles E. Stetson. *Janitor.* — Patrick W. Tighe.

GIRLS' HIGH SCHOOL.

West Newton street.

Head-Master. — John Tetlow. *Master.* — Samuel Thurber. *Asst. Principal.* — Harriet E. Caryl. *1st Asst.* — Margaret A. Badger. *Assistants.* — M. Medora Adams, Zephirine N. Brown, Alla W. Foster, Charlotte M. Gardner, Helen A. Gardner, Isabel P. George, Elizabeth E. Hough, Emma W.

Kaan, Augusta C. Kimball, Parnell S. Murray, Sarah J. C. Needham, Emerette O. Patch, Laura E. Richardson, Emma G. Shaw, S. Annie Shorey, Elizabeth L. Smith, Adeline L. Sylvester, Lucy R. Woods. *Vocal and Physical Culture*. — Sara E. Miller. *Chemistry*. — Laura B. White. *Laboratory Asst.* — Margaret C. Brawley. *Janitor*. — John Murphy, Jr.

ROXBURY HIGH SCHOOL. (BOYS AND GIRLS.)

Warren Street.

Head-Master. — Charles M. Clay. *Junior-Master*. — Nathaniel S. French. *Master*. — John C. Ryder. *Assistants*. — Eliza D. Gardner, Edith A. Parkhurst, Persis P. Drake, Helen A. Bragg, Annie N. Crosby, Jennie R. Ware, Mabel L. Warner, Mabel F. Wheaton, Mary H. Gibbons, Mary E. Upham, Eugenia M. Williams, Josephine W. Greenlaw, Josiah M. Kagan. *Laboratory Asst.* — George S. Berry, Jr. *Janitor*. — Allen McLeod.

DORCHESTER HIGH SCHOOL. (BOYS AND GIRLS.)

Centre street, corner Dorchester avenue.

Head-Master. — Charles J. Lincoln. *Junior-Master*. — Albert S. Perkins. *Assistants*. — Laura E. Hovey, Edith S. Cushing, Emily J. Tucker, Lucy A. Frost, Sara W. Wilson, Anna M. Fries, Margaret Cunningham. *Janitor*. — Thomas J. Hatch.

CHARLESTOWN HIGH SCHOOL. (BOYS AND GIRLS.)

Monument square, Charlestown.

Head-Master. — John O. Norris. *Junior-Master*. — Edward F. Holden. *Assistants*. — Sarah Shaw, Alla F. Young, Abbie F. Nye, Lillian M. Towne, Grace Hooper. *Janitor*. — Joseph Smith.

WEST ROXBURY HIGH SCHOOL. (BOYS AND GIRLS.)

Elm street, Jamaica Plain.

Master. — George C. Mann. *Junior-Master*. — George F. Partridge. *Assistants*. — Josephine L. Sanborn, M. Louise Foster, Mary I. Adams, Isabella H. Howe, Blanche G. Wetherbee. *Janitor*. — J. J. Wentworth.

BRIGHTON HIGH SCHOOL. (BOYS AND GIRLS.)

Academy Hill, Brighton.

Master. — Benjamin Wormelle. *Assts.* — Marion A. Hawes, Ida M. Curtis, Mariette F. Allen. *Janitor*. — John W. Remmonds.

EAST BOSTON HIGH SCHOOL. (BOYS AND GIRLS.)

Paris and Meridian streets.

Master. — John F. Eliot. *Junior-Master.* — Charles W. Gerould. *Assts.* — Lucy R. Beadle, Kate W. Cushing, Josephine Rice. *Janitor.* — Oliver E. Wood.

MECHANIC ARTS HIGH SCHOOL.

Belvidere, corner of Dalton street.

Head-Master. — Charles W. Parmenter. *Junior-Masters.* — Roswell Parish, William Fuller, Herbert S. Weaver. *Instructors.* — Benjamin F. Eddy, Ludwig Frank, Herbert M. Woodward, John W. Raymond, Jr. *Janitor.* — George W. Fogg.

SPECIAL INSTRUCTORS.

DRAWING.

Henry Hitchings, *Director.* Henry W. Poor, *Assistant.*

PHYSICAL TRAINING.

Edward M. Hartwell, *Director.* Hartvig Nissen, *Assistant.*

MODERN LANGUAGES.

Charles H. Grandgent, *Director.*

Henri Morand, J. Frederick Stein, Jacob Lehmann, *Assistants.*

KINDERGARTENS.

Laura Fisher, *Director.*

MUSIC.

Henry G. Carey. Latin and High Schools.

Hosea E. Holt. Normal, Rice, Wells, Eliot, Hancock, Bigelow, Gaston, John A. Andrew, Lawrence, Lincoln, Norcross, Shurtleff, Thomas N. Hart, Bowdoin, Phillips Schools.

J. Munroe Mason. Adams, Chapman, Emerson, Lyman, Bunker Hill, Frothingham, Harvard, Prescott, Warren, Brimmer, Quincy, Winthrop Schools.

James M. McLaughlin. Comins, Dearborn, Dudley, Dillaway, George Putnam, Hugh O'Brien, Lewis, Lowell, Martin, Agassiz, Bowditch, Charles Sumner, Robert G. Shaw Schools.

Leonard B. Marshall. Prince, Dwight, Everett, Franklin, Hyde, Sherwin, Bennett, Edward Everett, Gibson, Harris, Mather, Minot, Henry L. Pierce, Stoughton, Tileston, Washington Allston Schools.

Assistant Instructors.

Sarah C. Carney, Rose A. Carrigan, Susan H. Hall, Laura F. Taylor.

MILITARY DRILL.

Joseph T. Paget. A. Dakin, *Armorer*.

SEWING.

Catharine L. Bigelow. Bowdoin, Prince Schools.
 Mrs. Sarah J. Bray. Harvard, Frothingham Schools.
 Mrs. Annie E. Brazer. Lowell School.
 Mrs. Harriet F. Browne. Henry L. Pierce, Harris Schools.
 Helen L. Burton. Lewis, Gibson Schools.
 Mrs. Catherine J. Cadogan. Norcross School.
 Kate A. Clare. Hancock School.
 Mrs. Eliza M. Cleary. Shurtleff School.
 Mrs. Susan M. Cousens. Chapman, Emerson Schools.
 Isabelle Cumming. Winthrop School.
 Mrs. Kate A. Doherty. Hancock School.
 Clara L. Derr. Wells School.
 Martha F. French. Horace Mann School.
 Helen E. Hapgood. George Putnam School.
 Mrs. Olive C. Hapgood. Bowditch School.
 Mrs. Mary E. Jacobs. Dearborn, Hugh O'Brien Schools.
 Margaret A. Kelly. Hyde School.
 Elizabeth S. Kenna. John A. Andrew School.
 Mary J. McEntyre. Norcross School.
 Annie S. Meserve. Everett School.
 Catherine C. Nelson. Minot, Stoughton, Tileston Schools.
 Sarah H. Norman. Comins, Winthrop Schools.
 Mary E. Patterson. Gaston School.
 Mrs. Elizabeth A. Power. Bennett, Chapman, Lyman, Washington Allston
 Schools.
 Ellen E. Power. Emerson School.
 Mrs. Julia A. Skilton. Bunker Hill, Warren Schools.
 Mrs. Sarah A. Stall. Bennett, Washington Allston Schools.
 Lizzie A. Thomas. Franklin School.
 Mrs. Emma A. Waterhouse. Dillaway School.
 Emma G. Welch. Edward Everett, Mather Schools.
 Ella Whiting. Adams, Rice Training Schools.
 Ellen M. Wills. Charles Sumner, Robert G. Shaw Schools.
 Esther L. Young. Martin School.

FIRST DIVISION.

ADAMS SCHOOL. (BOYS AND GIRLS.)

Belmont square, East Boston.

Master. — Frank F. Preble. *Sub-Master.* — Joel C. Bolan. *1st Asst.* — Mary M. Morse, *2d Asst.* — Clara Robbins. *3d Assts.* — Adiline H. Cook, Ellenette Pillsbury, Sarah E. McPhaill, Jennie A. Mayer, Harriet Sturtevant. *Ungraded Class.* — M. Luetta Choate. *Janitor.* — Michael J. Burke.

PRIMARY SCHOOL.

PLUMMER SCHOOL, BELMONT SQUARE.

2d Asst. — Anna E. Reed. *4th Assts.* — Ellen M. Robbins, Jennie A. Soutter, Emma M. Weston, Mary A. Palmer. *Janitor.* — Mary Campbell.

CHAPMAN SCHOOL. (BOYS AND GIRLS.)

Entaw street, East Boston.

Master. — Tilson A. Mead. *Sub-Master.* — Harry N. Andrews. *1st Assts.* — Lucy W. Eaton, Jane F. Reid. *2d Assts.* — Sarah F. Tenney, Maria D. Kimball. *3d Assts.* — Margaret B. Erskine, Martha P. M. Walker, Grace M. Strong, Margaret D. Barr, Katharine L. Niland, Lucy E. Woodwell, Mary E. Buffum. *Janitor.* — James E. Burdakin.

PRIMARY SCHOOL.

TAPPAN SCHOOL, LEXINGTON STREET.

2d Asst. — Hannah F. Crafts. *4th Assts.* — Mary C. Hall, Mabel V. Roche, Marietta Duncan, Clara A. Otis, Calista W. McLeod. *Janitor.* — Bradford H. Blinn.

EMERSON SCHOOL. (BOYS AND GIRLS.)

Prescott, cor. of Bennington street, East Boston.

Master. — J. Willard Brown. *Sub-Master.* — Horatio D. Newton. *1st Assts.* — Frances H. Turner, Mary A. Ford. *2d Assts.* — H. Elizabeth Cutter, Mary D. Day. *3d Assts.* — Louise S. Hotchkiss, Annie S. Hayward, Helen M. Souther, Almaretta J. Critchett, Emma J. Irving, Mary L. Sweeney, Ida E. Halliday, Ellen S. Bloomfield. *Ungraded Class.* — Helen M. Slack. *Janitor.* — Edward C. Chessman.

BLACKINTON SCHOOL, ORIENT HEIGHTS.

3d Assts. — Fanny O. Bartlett, Sara F. Littlefield. *Janitor.* — James S. Hendrick.

PRIMARY SCHOOLS.

EMERSON SCHOOL, PRESCOTT STREET.

4th Asst. — Elizabeth A. Turner.

NOBLE SCHOOL, PRINCETON STREET.

2d Asst. — Mary E. Plummer. *4th Assts.* — Sarah A. Atwood, Margaret A. Bartlett, Abby D. Beale, Harriet E. Litchfield, Susan A. Slavin, Lizzy M. Morrissey. *Janitor.* — George J. Merritt.

BENNINGTON-STREET CHAPEL.

4th Asst. — Charlotte G. Ray. *Janitor.* — Mahala J. Dexter.

BLACKINTON SCHOOL, ORIENT HEIGHTS.

4th Assts. — Caroline E. Nutter, Hattie H. Coan.

LYMAN SCHOOL. (BOYS AND GIRLS.)

Corner of Paris and Gove streets, East Boston.

Master. — Augustus H. Kelley. *Sub-Master.* — Herbert L. Morse. *1st Assts.* — Cordelia Lothrop, Eliza F. Russell. *2d Assts.* — Mary A. Turner, Amelia H. Pitman. *3d Assts.* — Emma M. Bates, Mabel F. Wilkins, Elizabeth F. Curry, Clara B. George, Lillian G. Plummer, Mary P. E. Tewksbury. *Janitor.* — Charles L. Glidden.

PRIMARY SCHOOL.

CUDWORTH SCHOOL, GOVE STREET.

2d Assts. — Anna I. Duncan, Nellie M. Porter. *4th Assts.* — Fidelia D. Merrick, Josephine A. Ayers, Catharine A. Sullivan, Mary E. Williams, Julia A. Logan, Lena E. Synette, Annie M. Wilcox. *Janitor.* — Samuel I. Crafts.

SECOND DIVISION.

BUNKER HILL SCHOOL. (BOYS AND GIRLS.)

Baldwin street, Charlestown.

Master. — Samuel J. Bullock. *Sub-Master.* — Henry F. Sears. *1st Assts.* — Harriet H. Norcross, Abby P. Josslyn. *2d Assts.* — Mary E. Minter, Angelia M. Knowles. *3d Assts.* — Ida O. Hurd, Annie F. McMahon, Clara

B. Brown, Elenore S. Wolff, Anna M. Prescott, Cora V. George, Kate C. Thompson. *Ungraded Class.* — Charlotte E. Seavey. *Janitor.* — Gustavus H. Gibbs.

PRIMARY SCHOOLS.

BUNKER HILL STREET SCHOOL, COR. CHARLES STREET.

2d Asst. — Elizabeth B. Norton. *4th Assts.* — Mary E. Flanders, Mary D. Richardson, Effie G. Hazen, Jennie F. White, Sarah A. Smith, Anna P. Hannon. *Janitor.* — Gustavus H. Gibbs.

B. F. TWEED SCHOOL, CAMBRIDGE STREET.

4th Assts. — Kate T. Brooks, Annie B. Hunter, Ada E. Bowler. *Janitor.* — Samuel L. Smith.

FROTHINGHAM SCHOOL. (BOYS AND GIRLS.)

Corner of Prospect and Edgeworth streets, Charlestown.

Master. — William B. Atwood. *Sub-Master.* — Walter L. Harrington. *1st Assts.* — Charlotte E. Camp, Bial W. Willard. *2d Assts.* — Arabella P. Moulton, Sara H. Nowell. *3d Assts.* — Ellen R. Stone, Margaret J. O'Hea, Jane E. Tobey, Cecilia A. Kelley, Susan T. Dundon, Inez Haynes. *Ungraded Class.* — Mary Colesworthy. *Janitor.* — Warren J. Small.

PRIMARY SCHOOLS.

FROTHINGHAM SCHOOL, PROSPECT STREET.

4th Assts. — Persis M. Whittemore, Martha Yeaton, Florence I. Morse, Mary E. Corbett.

MOULTON-STREET SCHOOL.

4th Assts. — Nellie L. Cullis, Theresa E. Hayes, Mary E. Delaney, Fannie M. Lamson. *Janitor.* — Jeremiah F. Horrigan.

HARVARD SCHOOL. (BOYS AND GIRLS.)

Devens street, Charlestown.

Master. — Warren E. Eaton. *Sub-Master.* — Darius Hadley. *1st Assts.* — Sarah E. Leonard, Mary A. Lovering. *2d Assts.* — Abbie M. Libby, Caroline E. Gary. *3d Assts.* — Elizabeth W. Allen, Ida B. Nute, Sarah J. Perkins, Katherine C. Wigg, Olive J. Sawyer, Mabel P. Foster. *Ungraded Class.* — Theresa G. Power. *Janitor.* — Francis A. Hewes.

PRIMARY SCHOOLS.

HARVARD-HILL SCHOOL.

2d Asst. — Frances A. Foster. *4th Assts.* — Sarah J. Worcester, Elizabeth R. Cormier, Louise A. Whitman, Effie K. Worcester, Sarah R. Dodge, Elizabeth G. Desmond, Lana J. Wood. *Janitor.* — L. H. Hayward.

COMMON-STREET SCHOOL.

2d Asst. — Agnes A. Herlihy. *4th Assts.* — Helena G. Herlihy, Elizabeth R. Brower, S. Janet Jameson. *Janitor.* — L. H. Hayward.

PRESCOTT SCHOOL. (BOYS AND GIRLS.)

Elm Street, Charlestown.

Master. — Edwin T. Horne. *Sub-Master.* — William H. Furber. *1st Asst.* — Mary C. Sawyer. *2d Asst.* — Julia C. Powers. *3d Assts.* — Nellie J. Breed, Lydia A. Nason, Nellie L. P. Uihlein, Frances A. Craigen, Julia F. Sawyer, Margaret M. Whalen. *Janitor.* — James W. Ede.

PRIMARY SCHOOLS.

POLK-STREET SCHOOL.

4th Assts. — Mary E. Franklin, Lizzie Simpson, Elizabeth J. Doherty, Hattie L. Todd, Alice Simpson. *Janitor.* — Walter I. Sprague.

MEDFORD-STREET SCHOOL.

4th Assts. — Lydia E. Hapenny, Ruphine A. Morris, Grace A. Park. *Janitor.* — Walter I. Sprague.

WARREN SCHOOL. (BOYS AND GIRLS.)

Corner of Pearl and Summer streets, Charlestown.

Master. — Edward Stickney. *Sub-Master.* — William M. Newton. *1st Assts.* — Anna D. Dalton, Elizabeth Swords. *2d Assts.* — Mary F. Haire, Ellen A. Pratt. *3d Assts.* — Sarah J. Taff, Abbie M. Mott, Abby E. Holt, Alice M. Raymond, Alice Hall, Katharine A. Sweeney, Rose M. Cole. *Ungraded Class.* — Caroline A. Meade. *Janitor.* — John P. Swift.

PRIMARY SCHOOLS.

WARREN SCHOOL, SUMMER STREET.

4th Asst. — Caroline E. Osgood.

CROSS-STREET SCHOOL.

4th Assts. — Mary F. Kittredge, Fannie L. Osgood. *Janitor.* — Alice M. Lyons.

MEAD-STREET SCHOOL.

4th Assts. — M. Josephine Smith, Cora A. Wiley, Cartie F. Gammell, Jessie G. Paine. *Janitor.* — James Shute.

THIRD DIVISION.

BOWDOIN SCHOOL. (GIRLS.)

Myrtle street.

Master. — Alonzo Meserve. *1st Assts.* — Sarah R. Smith, James W. Webster. *2d Asst.* — S. Frances Perry. *3d Assts.* — E. Laura Tilden, Eliza A. Thomas, Irene W. Wentworth, Eudora E. W. Pitcher, Martha T. O'Hea, Ella L. Macomber. *Janitor.* — James Hamilton.

SOMERSET-STREET SCHOOL.

Ungraded Class. — Christine Dean.

PRIMARY SCHOOLS.

SOMERSET-STREET SCHOOL.

2d Asst. — Sarah E. Brown. *4th Assts.* — Mabel West, Clara J. Raynolds. *Janitor.* — Mrs. Anne J. Butler.

SHARP SCHOOL, ANDERSON STREET.

2d Asst. — Elizabeth R. Preston. *4th Assts.* — Harriet L. Smith, Amelia S. Duncan, Julia G. L. Morse, Elizabeth N. Smith. *Janitor.* — Mrs. Mary A. Maguire.

ELIOT SCHOOL. (Boys.)

North Bennet street.

Master. — Samuel Harrington. *Sub-Masters.* — Granville S. Webster, Benj. J. Hinds, John J. Sheehan. *1st Asst.* — Frances M. Bodge. *2d Asst.* — Adolin M. Steele. *3d Assts.* — Luciette A. Wentworth, Mary Heaton, Minnie I. Folger, M. Ella Wilkins, Mary E. Hanney, Isabel R. Haskins, Annie M. H. Gillespie, Mary V. Cunningham, Ellen G. Desmond. *Ungraded Class.* — E. Idella Seldis, Josephine L. Smith. *Janitor.* — P. J. Riordan.

WARE SCHOOL, NORTH BENNET STREET.

3d Assts. — *Ungraded Class.* — Agnes C. Moore, Genevieve C. Roach, Catherine J. Cunningham, Celia V. Leen, B. Louise Hagerty. *Janitor.* — William Swanzey.

FORMORT SCHOOL, SNELLING PLACE.

3d Asst. — *Ungraded Class.* — M. Persis Taylor.

FREEMAN SCHOOL, CHARTER STREET.

3d Asst. — *Ungraded Class.* — Charlotte A. Hood.

PRIMARY SCHOOLS.

FORMORT SCHOOL, SNELLING PLACE.

2d Asst. — Rose M. E. Reggio. *4th Assts.* — M. Elizabeth McGinley, Sylvia A. Richards, Sophia E. Krey, Winifred C. Wolff. *Janitor.* — Wm. Swanzey.

FREEMAN SCHOOL, CHARTER STREET.

2d Asst. — Ellen G. Murphy. *4th Assts.* — Katharine G. Sutcliffe, Mary H. Lannon, Marcella E. Donegan, Harriet E. Lampee. *Janitor.* — Mary A. O'Brien.

HANCOCK SCHOOL. (GIRLS.)

Parmenter street.

Master. — Lewis H. Dutton. *1st Assts.* — Ellen C. Sawtelle, Amy E. Bradford. *2d Assts.* — Josephine M. Robertson. — *Ungraded Class.* — Katherine E. Gillespie. *3d Assts.* — Helen M. Hitchings, Honora T. O'Dowd, Margaret A. Nichols, Susan E. Mace, Agnes L. Dodge, E. Lillian Mitchell, Hattie R. Christiernin. *Ungraded Class.* — Margaret A. M. O'Dowd, Ariel D. Savage, Annie G. Conroy, Elizabeth T. O'Brien. *Janitor.* — Joseph P. Fleming.

PRIMARY SCHOOLS.

CUSHMAN SCHOOL, PARMENTER STREET.

2d Asst. — Teresa M. Gargan. *4th Assts.* — Marcella C. Halliday, Florence E. Phillips, Annie M. Niland, Margaret D. Mitchell, Harriet M. Fraser, Mary L. Desmond, Mary G. Ruxton, Lena M. Rendall, Mary J. Clark, Julia E. Collins, Matilda F. Bibbey, Annie R. Dolan, Catharine W. Fraser, Mary J. Murray, Eleanor M. Colleton, Sophia G. Whalen. *Janitor.* — H. C. Mahoney.

INGRAHAM SCHOOL, SHEAFE STREET.

4th Assts. — Theresa M. Fraser, Lucy M. A. Moore, Adelaide R. Donovan. *Janitor.* — Mary McDermott.

PHILLIPS SCHOOL. (BOYS.)

Phillips street.

Master. — Elias H. Marston. *Sub-Masters.* — Edward P. Shute, Cyrus B. Collins, Frank L. Keith. *1st Asst.* — Nellie M. Whitney. *2d Asst.* — Adeline F. Cutter. *3d Assts.* — Eva M. Morand, Ruth E. Rowe, Eunice J. Simpson, Sarah W. I. Copeland, Martha A. Knowles, Louise H. Hinckley, Helen M. Coolidge, Emeline C. Farley, Julia F. Holland. *Janitor.* — Jeremiah W. Murphy.

GRANT SCHOOL, PHILLIPS STREET.

3d Assts. — *Ungraded Class.* — Katharine A. Burns, Mary E. Towle, Mary E. McIntire, Henrietta L. Dwyer. *Janitor.* — Mrs. Catherine O'Sullivan.

PRIMARY SCHOOL.

BALDWIN SCHOOL, CHARDON COURT.

2d Asst. — Jennie A. Dodson. *4th Assts.* — Elizabeth K. Bolton, Mary L. Bibbey, Angie P. S. Andrews. *Janitor.* — William Swanzey.

WELLS SCHOOL. (GIRLS.)

Corner Blossom and McLean streets.

Master. — Orlando W. Dimick. *1st Assts.* — Mary C. Mellyn, Emeline E. Durgin. *2d Asst.* — Hattie A. Watson. *3d Assts.* — Ellen F. Jones, Susan R. Gifford, Mary M. Perry, Lizzie F. Stevens, Lillian W. Prescott, Elizabeth Campbell, Emily H. Macdonald, Mary F. Flanagan, Adelaide E. Badger. *Janitor.* — Michael J. Crowley.

PRIMARY SCHOOLS.

WINCHELL SCHOOL, BLOSSOM STREET.

2d Asst. — Sarah G. Fogarty. *4th Assts.* — Lulu A. L. Hill, Helen M. Graves, Kate Wilson, Mary F. Finneran, Adelaide A. Rea, Nellie M. Durgin, Etta L. Jones, Annie E. Flanagan, Esther C. Moore. *Janitor.* — Jeremiah O'Connor.

EMERSON SCHOOL, POPLAR STREET.

2d Asst. — Mary F. Gargan. *4th Assts.* — H. Isabel Cottrell, Hannah E. Collins, Alicia I. Collison, Katharine L. King, Georgia D. Barstow. *Janitor.* — Mrs. B. F. Bradbury.

CHAMBERS-STREET SCHOOL.

4th Assts. — Anna F. Daly, Selina A. Black.

FOURTH DIVISION.

BRIMMER SCHOOL. (Boys.)

Common street.

Master. — Quincy E. Dickerman. *Sub-Masters.* — T. Henry Wason, Gustavus F. Guild. *1st Asst.* — Ella L. Burbank. *2d Asst.* — Josephine Garland. *3d Assts.* — James Burrier, Sarah E. Adams, Mary E. Keyes, Helen L. Bodge, Mary A. Carney, Annie P. James, Mary J. Marlow, Mary E. W. Hagerty. *Janitor.* — James F. Latrobe.

PRIMARY SCHOOLS.

BRIMMER SCHOOL, COMMON STREET.

4th Asst. — Margaret L. Eaton.

SKINNER SCHOOL, COR. FAYETTE AND CHURCH STREETS.

2d Asst. — Edith L. Stratton. *4th Assts.* — Emma F. Burrill, Emily B. Burrill, Mary E. Tiernay, Mary E. Collins, Elizabeth G. Cahill. *Janitor.* — Mrs. Fanny Nihen.

PRINCE SCHOOL. (BOYS AND GIRLS.)

*Newbury street, cor. Exeter street.**Master.* — E. Bentley Young. *Sub-Master.* — Seth Sears. *1st Asst.* — Mary Wilson. *2d Asst.* — Luthera W. Bird. *3d Assts.* — Katherine C. Martin, Kate A. Reycroft, M. Louise Fynes, Anna C. Murdock, Ellen P. Longfellow, Laura M. Kendrick. *Janitor* — Bernard L. Donnelly.

CHARLES C. PERKINS SCHOOL, ST. BOTOLPH STREET.

3d Asst. — Clara E. Fairbanks.

PRIMARY SCHOOLS.

PRINCE SCHOOL, EXETER STREET.

4th Assts. — Manetta W. Penney, Caroline F. Barnes, E. Isabelle Bense.

CHARLES C. PERKINS SCHOOL, ST. BOTOLPH STREET.

4th Assts. — Laura K. Hayward, Alice C. Butler, Katherine L. Campbell, Grace S. Peirce. *Janitor.* — Henry E. Newell.

QUINCY SCHOOL. (BOYS.)

*Tyler street.**Master.* — Alfred Bunker. *Sub-Masters.* — Frank F. Courtney, George R. Keene. *1st Asst.* — Mary L. Holland. *2d Asst.* — Angie C. Damon. *3d Assts.* — Bridget A. Foley, Ida H. Davis, Annie F. Merriam, Emma F. Colomy, Margaret E. Carey, Ellen L. Collins, Mary T. Wright. *Janitor.* — Jane A. Daly.

PRIMARY SCHOOLS.

QUINCY SCHOOL, TYLER STREET.

2d Asst. — Hannah G. Gleason. *4th Assts.* — Kate A. Kiggen, Octavia C. Heard.

PIERPONT SCHOOL, HUDSON STREET.

4th Assts. — Kate L. Wilson, Julia A. McIntyre. *Janitor.* — Ellen McCarthy.

WAY-STREET SCHOOL.

4th Assts. — Mary E. Conley, Abbie E. Batchelder, Ann T. Corliss. *Janitor.* — Margaret A. Brennick.

HALL'S BUILDING, 202 HARRISON AVENUE.

4th Assts. — Maria A. Callahan, Emily E. Maynard, Harriet M. Bolman. *Janitor.* — Margaret A. Brennick.

WINTHROP SCHOOL. (GIRLS.)

Tremont, near Eliot street.

Master. — Robert Swan. *1st Assts.* — Susan A. W. Loring, May Gertrude Ladd. *2d Assts.* — Emma K. Valentine, Katherine K. Marlow, Margaret T. Wise, Mary L. H. Gerry. *3d Assts.* — Ellen M. Underwood, Mary L. Fitzpatrick, Emma A. Gordon, Mary A. Murphy, Caroline S. Crozier, Carrie Merrill, Helen L. Hilton, Louise K. Hopkinson. *Janitor.* — Joseph T. Whitehouse.

PRIMARY SCHOOL.

TYLER-STREET SCHOOL.

2d Asst. — Amelia E. N. Treadwell. *4th Assts.* — Mary A. Reardon, Mary E. Noonan, Mary T. Foley, Emma I. Baker, Mary L. Hennessy. *Janitor.* — Ellen McCarthy.

FIFTH DIVISION.

DWIGHT SCHOOL. (Boys.)

West Springfield street.

Master. — James A. Page. *Sub-Masters.* — Jason L. Curtis, Jr., Henry C. Parker. *1st Asst.* — Ruth G. Rich. *2d Asst.* — Mary C. R. Towle. *3d Assts.* — Sarah C. Fales, Nellie L. Shaw, Georgiana Benjamin, Mary E. Trow, Priscilla Whiton, Georgie M. Clarke, Clara P. Wardwell, Emma A. Child, Isabel H. Wilson, *Janitor.* — William H. Johnson.

PRIMARY SCHOOLS.

RUTLAND-STREET SCHOOL.

2d Asst. — Martha B. Lucas. *4th Assts.* — Emma F. Gallagher, Delia L. Viles. *Janitor.* — Daniel H. Gill.

JOSHUA BATES SCHOOL, HARRISON AVENUE.

2d Asst. — Eva L. Munroe. *4th Assts.* — Mary E. O'Brien, Miriam Sterne, Anna J. O'Brien, Sara Mock, Georgina E. McBride, Ruth C. Mills. *Janitor.* — William P. Tiernay.

EVERETT SCHOOL. (GIRLS.)

West Northampton street.

Master. — Myron T. Pritchard. *1st Assts.* — Janet M. Bullard, Eliza M. Evert. *2d Assts.* — Emma F. Porter, Susan S. Foster, Anna E. Grover. *3d Assts.* — Abby C. Haslet, Anna R. Gavett, Evelyn E. Morse, Sarah L. Adams, Minna L. Wentworth, Anna I. Madden, Annie J. Reed, Emily T. Kelleher, Ida B. Henderson. *Janitor.* — Edward Bannon.

PRIMARY SCHOOL.

WEST CONCORD-STREET SCHOOL.

2d Asst. — Eliza C. Gould. *4th Assts.* — Frances W. Sawyer, Adelaide B. Smith, Mary H. Downe, Alice E. Stevens, Florence A. Perry, Helen G. McElwain, Margaret H. Manning, Mary E. McGraw. *Janitor.* — Annie Harold.

FRANKLIN SCHOOL. (GIRLS.)

Ringgold street.

Master. — Granville B. Putnam. *1st Assts.* — Jennie S. Tower, Isabel M. Harmon. *2d Assts.* — Margaret J. Crosby, P. Catharine Bradford, Octavia L. Cram. *3d Assts.* — Abby A. Hayward, Annie G. Merrill, Lillian J. McRae, Anna E. L. Parker, Sarah N. Macomber, Lillian S. Bourne, Ida M. Mitchell. *Janitor.* — John S. Krebs.

PRIMARY SCHOOLS.

COOK-SCHOOL, GROTON STREET.

2d Asst. — Harriet M. Faxon. *4th Assts.* — Affie T. Wier, Elizabeth E. Dailey, Kate R. Hale. *Janitor.* — Mary A. Daly.

WAIT SCHOOL, SHAWMUT AVENUE.

2d Asst. — Josephine G. Whipple. *4th Assts.* — Georgiana A. Ballard, Emma E. Allin, Clara J. Bates, Kate R. Gookin, Lillian Tishler, Etta M. Smith, Florence H. Rich. *Janitor.* — Mansfield Harvell.

HYDE SCHOOL. (GIRLS.)

Hammond street.

Master. — Silas C. Stone. *1st Assts.* — Esther H. Fletcher, Lucy L. Burgess. *2d Assts.* — Alice G. Maguire, E. Elizabeth Bois, Jane Reid. *3d*

Assts. — Caroline K. Nickerson, Sarah R. Wentworth, Etta Yerden, Elizabeth A. Spaulding, Helen Perry, Ada M. Fitts, Annie M. Trundy. *Janitor.* — Thomas J. Kenney.

PRIMARY SCHOOLS.

WESTON-STREET SCHOOL.

2d Assts. — Anna G. Fillebrown. *4th Assts.* — Mary G. Murphy, Mary F. Cogswell, Louise A. Kelley, Delia E. Cunningham, Rose A. Mitchell, Estella M. Hall, Mary A. Higgins. *Janitor.* — Patrick F. Higgins.

WESTON-STREET SCHOOL. (*Old Building.*)

4th Asst. — Celia Bamber.

SHERWIN SCHOOL. (Boys.)

Madison square.

Master. — Francis A. Morse. *Sub-Masters.* — E. Emmons Grover, Fred-eric L. Owen. *1st Asst.* — Elizabeth B. Walton. *2d Asst.* — Alice T. Kelley. *3d Assts.* — Adella L. Baldwin, Mary B. Chaloner, Mary N. Regan, Mary F. Roome, Mary E. T. Healey, Nellie F. Brazer. *Janitor.* — Joseph G. Scott.

PRIMARY SCHOOLS.

SHERWIN SCHOOL.

4th Assts. — Emma L. Peterson, Annie E. Wallcut, Sarah E. Gould, Nellie H. Crowell. *Janitor.* — Joseph G. Scott.

IRA ALLEN SCHOOL, LEON STREET.

4th Assts. — Abbie E. Ford, Elizabeth F. Todd, Oria J. Perry, Minnie A. Perry. *Janitor.* — Charles H. Stephan.

DAY'S CHAPEL.

4th Asst. — Rose E. Conaty. *Janitor.* — John Cole.

SIXTH DIVISION.

BIGELOW SCHOOL. (Boys.)

Fourth street, corner of E street, South Boston.

Master. — Frederic H. Ripley. *Sub-Masters.* — J. Gardner Bassett, W. Lawrence Murphy. *1st Asst.* — Amelia B. Coe. *2d Assts.* — Ellen Coe, Martha A. Goodrich. *3d Assts.* — Eliza B. Haskell, Mary Nichols, Malvena Tenney, Stella A. Hale, Catharine H. Cook, Angeline S. Morse, Elizabeth M. Mann, Sabina G. Sweeney, Cara W. Hanscom. *Janitor.* — Samuel P. Howard.

FOURTH-STREET SCHOOL.

3d Assts. — George A. Cowen, Josephine Crockett.

PRIMARY SCHOOLS.

HAWES-HALL SCHOOL, BROADWAY.

2d Asst. — Ann J. Lyon. *4th Assts.* — Ida M. Condon, Sarah D. McKissick, Mary L. Bright, Ella F. Fitzgerald, Margarette H. Price, Julia A. Rourke, Mary L. Howard. *Janitor.* — Alexander Nelson.

SIMONDS SCHOOL, BROADWAY.

4th Assts. — Annie S. McKissick, Florence L. Spear, Julia G. Leary. *Janitor.* — Alexander Nelson.

GASTON SCHOOL. (GIRLS.)

Fifth street, corner of L street, South Boston.

Master. — Thomas H. Barnes. *1st Assts.* — Juliette R. Hayward, Sarah C. Winn. *2d Assts.* — Carrie M. Kingman, Clara A. Sharp, Mary B. Barry. *3d Assts.* — Emogene F. Willett, Ellen R. Wyman, Carrie A. Harlow, Emma M. Sibley, Josephine A. Powers, J. Adelaide Noonan, Lila Huckins, M. Isabel Harrington. *Janitor.* — Albion Elwell.

BENJAMIN POPE SCHOOL, O STREET.

3d Asst. — Mary S. Laughton.

PRIMARY SCHOOLS.

GASTON SCHOOL, L STREET.

4th Asst. — Jennie G. Carmichael.

BENJAMIN POPE SCHOOL, O STREET.

2d Asst. — Ella R. Johnson. *4th Assts.* — Susan Frizzell, Carrie W. Hayden, Mary E. Dee, Lelia R. Haydn, Isabella J. Murray, Louise E. Means. *Janitor.* — Charles Carr.

JOHN A. ANDREW SCHOOL. (BOYS AND GIRLS.)

Dorchester street, South Boston.

Master. — Joshua M. Dill. *Sub-Master.* — Edgar L. Raub. *1st Assts.* — Frank M. Weis, Emma M. Cleary. *2d Asst.* — Mary E. Perkins. *3d Assts.* — Mary L. Fitzgerald, Ella I. Cass, Mary J. Cunningham, Alice T. Cornish, Sarah E. Connelly, Madeline P. Trask, Agnes M. Cochran, Bertha E. Miller, Annie L. Clapp. *Janitor.* — Thomas Buckner.

PRIMARY SCHOOL.

TICKNOR SCHOOL, DORCHESTER STREET.

2d Asst. — Mary A. Jenkins. *4th Asssts.* — Sarah E. Ferry, Sarah E. Welch, Alice P. Howard, Alice L. Littlefield, Grace L. Tucker, Grace E. Holbrook, Caroline M. Walsh, Helen M. Atwood, Emily F. Hodsdon, Annie M. Driscoll, Roxanna L. Johnston. *Janitor.* — Alexander McKinley.

LAWRENCE SCHOOL. (Boys.)

Corner of B and Third streets, South Boston.

Master. — Amos M. Leonard. *Sub-Masters.* — Augustus D. Small, George S. Houghton. *1st Asst.* — Emma P. Hall. *2d Asst.* — Charlotte L. Voigt. *3d Asssts.* — Agnes G. Gilfether, Isabella F. Crapo, Eva E. Hall, Kate Haushalter, Mary A. Montague, Margaret A. Gleason, Mary A. Conroy, Mary E. McMann, Mary J. Buckley, Mary E. Denning. *Janitor.* — William F. Griffin.

MATHER SCHOOL, BROADWAY.

3d Asst. — M. Louise Gillett. *Janitor.* — Thomas Boswell.

PRIMARY SCHOOLS.

MATHER SCHOOL, BROADWAY.

2d Asst. — Sarah E. Lakeman. *4th Asssts.* — Elinor F. Buckley, Margaret M. Burns, Maud F. Crosby, Lena J. Crosby, Mary E. Flynn, Eva C. Morris. *Janitor.* — Thomas Boswell.

PARKMAN SCHOOL, SILVER STREET.

4th Asssts. — Laura S. Russell, Elizabeth J. Andrews, Amelia McKenzie. *Janitor.* — Michael Murray.

HOWE SCHOOL, FIFTH STREET, BETWEEN B AND C.

2d Asst. — Martha S. Damon. *4th Asssts.* — Emma Britt, Marie F. Keenan, Sarah M. Brown, Mary E. T. Shine, Henrietta Nichols, Sabina F. Kelly. *Janitor.* — M. T. Reagan.

LINCOLN SCHOOL. (Boys.)

Broadway, near K street, South Boston.

Master. — Maurice P. White. *Sub-Masters.* — William E. Perry, Charles N. Bentley. *1st Asst.* — Martha F. Wright. *2d Asst.* — Sarah A. Curran. *3d Asssts.* — Vodisa J. Comey, Louise A. Pieper, Hannah L. Manson, Annie M. Mulcahy, Ellen A. McMahon, Florence O. Bean. *Ungraded Class.* — Sarah P. Clemons. *Janitor.* — Joseph S. Luther.

PRIMARY SCHOOLS.

TUCKERMAN SCHOOL, FOURTH STREET.

2d Asst. — Elizabeth M. Easton. *4th Assts.* — Ellen V. Courtney, Mary A. Crosby, Frances A. Cornish, Anna E. Somes. *Janitor.* — A. D. Bickford.

CHOATE BURNHAM SCHOOL, WEST THIRD STREET.

2d Asst. — Laura L. Newhall. *4th Assts.* — Sarah T. Driscoll, Eleanor F. Elton, Kate A. Coolidge, Daisy E. Welch, Helen A. Emery. *Janitor.* — George L. Dacey.

NORCROSS SCHOOL. (GIRLS.)

Corner D and Fifth streets, South Boston.

Master. — Fred O. Ellis. *1st Assts.* — M. Elizabeth Lewis, Caroline Bernhard. *2d Assts.* — Sarah A. Gallagher, Lillian K. Lewis, Juliette Smith. *3d Assts.* — Mary E. Downing, Maria L. Nelson, Emma L. Eaton, Mary R. Roberts, Julia S. Dolan, Mary E. Bernhard, Emma F. Crane, Ellen T. Noonan, Isabel M. Wier. *Janitor.* — Samuel T. Jeffers.

PRIMARY SCHOOLS.

DRAKE SCHOOL, THIRD STREET.

2d Asst. — Eleanor J. Cashman. *4th Assts.* — Fannie W. Hussey, Abby C. Nickerson, Alice J. Meins, Kate E. Fitzgerald. *Janitor.* — Patrick Mullen.

CYRUS ALGER SCHOOL, SEVENTH STREET.

2d Asst. — Ann E. Newell. *4th Assts.* — Harriet L. Rayne, Emma F. Gallagher, Martha G. Buckley, Jane A. Mullally, Alice W. Baker, Hannah L. McGlinchey. *Janitor.* — James M. Demeritt.

SHURTLEFF SCHOOL. (GIRLS.)

Dorchester street, South Boston.

Master. — Henry C. Hardon. *1st Assts.* — Anna M. Penniman, Ellen E. Morse. *2d Assts.* — Catherine A. Dwyer, Emeline L. Tolman, Martha E. Morse. *3d Assts.* — Jane M. Bullard, Winnifred C. Folan, Roxanna N. Blanchard, Harriet S. Howes, Mary M. Clapp, Marion W. Rundlett, Anna L. Scallon, Ella G. Fitzgerald. *Janitor.* — James Mitchell.

PRIMARY SCHOOLS.

SHURTLEFF SCHOOL, DORCHESTER STREET.

4th Asst. — Marguerite S. Clapp.

CLINCH SCHOOL, F STREET.

2d Asst. — Lucy A. Dunham. *4th Assts.* — Alice G. Dolbeare, Mary E. Morse, Alice C. Ryan, Lillian M. Hall, Katherine E. McDonald. *Janitor.* — Michael E. Brady.

THOMAS N. HART SCHOOL. (BOYS.)

II, cor. East Fifth street, South Boston.

Master. — Alonzo G. Ham. *Sub-Master.* — John F. Dwight. *1st Asst.* — Margaret J. Stewart. *2d Asst.* — John D. Philbrick. *3d Assts.* — Jennie F. McKissick, Mary B. Powers, Emma J. Channell, Anastasia G. Hyde, L. Idalia Provan, Bertha Peirce. *Janitor.* — Nathan Gray.

PRIMARY SCHOOLS.

THOMAS N. HART SCHOOL, H STREET.

4th Assts. — Lura M. Power, Evelyn M. Condon, Florence Harlow.

CAPEN SCHOOL, COR. OF I AND SIXTH STREETS

2d Asst. — Mary E. Powell. *4th Assts.* — Laura J. Gerry, Mary E. Perkins, Ella M. Warner, Fannie G. Patten, S. Louella Sweeney. *Janitor.* — A. D. Bickford.

SEVENTH DIVISION.

COMINS SCHOOL. (BOYS AND GIRLS.)

Tremont street, corner Terrace street, Roxbury.

Master. — William H. Martin. *Sub-Master.* — George G. Edwards. *1st Assts.* — Cora S. Locke, Sarah E. Lovell. *2d Asst.* — Almira W. Chamberline. *3d Assts.* — Elizabeth G. Phelps, Jane E. Gormley, Mary L. Williams, Mary E. Crosby, Margaret A. Maguire, Sarah W. Moulton, Alice A. Sanborn, Mary H. Brick. *Janitor.* — Michael Gallagher.

PRIMARY SCHOOL.

PHILLIPS-STREET SCHOOL.

2d Asst. — Anna R. McDonald. *4th Assts.* — Elizabeth P. Brewer, Sarah E. Haskins, Sarah B. Bancroft, Sabina Egan, Marcella M. Ryan. *Janitor.* — Thomas F. Whalen.

DEARBORN SCHOOL. (BOYS AND GIRLS.)

Dearborn place, near Eustis street, Roxbury.

Master. — Charles F. King. *Sub-Master.* — Alanson H. Mayers. *1st Assts.* — Lily B. Atherton, Phitena W. Rounseville. *2d Assts.* — Martha D.

Chapman, Catherine M. Lynch. *3d Assts.* — Anne M. Backup, Lizzie M. Wood, Mary F. Walsh, Ida M. Presby, Abby W. Sullivan, Lizzie M. Hersey, Helen Doherty, Sarah A. Driscoll. *Janitor.* — Michael J. Lally.

PRIMARY SCHOOLS.

YEOMAN-STREET SCHOOL.

2d Asst. — Mary A. P. Cross. *4th Assts.* — Mary E. Connor, Ellen M. Oliver, Alice W. Peaslee, Mary E. Nason, Ada L. McKean, Louisa D. Gage, Kate A. Nason, Katharine O'Brien. *Janitor.* — James Craig.

EUSTIS-STREET SCHOOL.

2d Asst. — Mary F. Neale. *4th Assts.* — M. Agnes Murphy, Mary K. Wallace, Emma L. Merrill.

MOUNT PLEASANT-AVENUE SCHOOL.

4th Assts. — Adaline Beal, Elois B. Walcott. *Janitor.* — John J. Dignon.

DILLAWAY SCHOOL. (GIRLS.)

Kenilworth street, Roxbury.

Principal. — Sarah J. Baker. *1st Assts.* — Elizabeth M. Blackburn, Annie L. Bennett. *2d Assts.* — Helen C. Mills, Phebe H. Simpson, Abby M. Clark. *3d Assts.* — Cordelia G. Torrey, Lucia A. Ferguson, Eliza Brown, Alice E. Robinson, Ella F. Little, Mary L. Gore, Susan H. McKenna. *Janitor.* — Luke Riley.

PRIMARY SCHOOLS.

BARTLETT-STREET SCHOOL.

2d Asst. — Anna M. Balch. *4th Assts.* — Anna M. Stone, Agnes A. Watson, Celia A. Scribner, Elizabeth Palmer. *Janitor.* — John Schromm.

ABBY W. MAY SCHOOL, THORNTON STREET.

4th Assts. — Mary L. Shepard, Elizabeth A. O'Neil, Ellen A. Scollin, Edith Rose. *Janitor.* — Charles F. Travis.

DUDLEY SCHOOL. (Boys.)

Corner of Dudley and Putnam streets, Roxbury.

Master. — Leverett M. Chase. *Sub-Masters.* — Augustine L. Rafter, William L. Phinney. *1st Asst.* — Alice E. Farrington. *2d Asst.* — Harriet E. Davenport. *3d Assts.* — Mary H. Cashman, Maria E. Wood, Amanda E. Henderson, Margaret T. Dooley, Ida S. Hammerle, M. Alice Kimball, Frances Zirngiebel, Abby S. Hapgood, Ella M. Hersey. *Janitor.* — Jonas Pierce.

PRIMARY SCHOOLS.

VERNON-STREET SCHOOL.

2d Asst. — Alice L. Williams. *4th Assts.* — Ingemisca G. Weysse, Lucy G. M. Card, Mary I. Chamberlain, L. Adelaide Colligan, Mary A. Brennan. *Janitor.* — Mrs. Kelley.

ROXBURY-STREET SCHOOL.

2d Asst. — Helen P. Hall. *4th Assts.* — Kate F. Lyons, Delia T. Killon, Hattie A. Littlefield, Sarah E. Rumrill, Lizzie F. Johnson, Ella M. Seaverns. *Janitor.* — M. W. Kendricken.

GEORGE PUTNAM SCHOOL. (BOYS AND GIRLS.)

Seaver street, Roxbury.

Master. — Henry L. Clapp. *Sub-Master.* — William L. Bates. *1st Asst.* — Katharine W. Huston. *2d Asst.* — Ellen E. Leach. *3d Assts.* — Maria F. Bray, Emma R. Gragg, Annie G. Ellis, Blanche A. Morrill. *Janitor.* — Luke Kelley.

WILLIAMS SCHOOL, HOMESTEAD STREET.

3d Asst. — Susan J. MacConnell.

PRIMARY SCHOOLS.

GEORGE PUTNAM SCHOOL.

4th Assts. — Amoritta E. Esilman, Mabel L. Brown, Orphise A. Morand.

WILLIAMS SCHOOL, HOMESTEAD STREET.

2d Asst. — Julia H. Cram. *4th Assts.* — Rosanna L. Rock, Ede F. Travis. *Janitor.* — Luke Kelley.

HUGH O'BRIEN SCHOOL. (BOYS AND GIRLS.)

Corner Dudley and Langdon streets, Roxbury.

Master. — John R. Morse. *Sub-Master.* — Abram T. Smith. *1st Assts.* — L. Anna Dudley, Margaret Holmes. *2d Assts.* — Helen M. Hills, Helen F. Brigham. *3d Assts.* — Sarah W. Loker, Maria L. Mace, Esther E. McGrath, Mary J. Mohan, Esther M. Meserve, Ellen F. Hagerty, Evangeline Clark, M. Jennie Moore, Sarah H. Hosmer, Elizabeth F. Pinkham. *Janitor.* — Thomas J. Gill.

PRIMARY SCHOOLS.

GEORGE-STREET SCHOOL.

2d Asst. — Emily M. Pevear. *4th Assts.* — Abby S. Oliver, Sarah S. Burrell, Bridget E. Scanlan, Anna W. Clark. *Janitor.* — Samuel S. McLennan.

HOWARD-AVENUE SCHOOL.

2d Asst. — Elizabeth R. Wallis. *4th Assts.* — Annie W. Ford, Mary W. Currier, Mary F. McDonald, Matilda Mitchell, Isabella L. Bissett. *Janitor.* — Samuel S. McLennan.

LEWIS SCHOOL. (BOYS AND GIRLS.)

Corner of Dale and Sherman streets, Roxbury.

Master. — William L. P. Boardman. *Sub-Master.* — Henry B. Hall. *1st Assts.* — Sarah E. Fisher, Alice O'Neil. *2d Assts.* — Mary H. Thompson, Ellen M. Murphy. *3d Assts.* — Gertrude H. Lakin, Grace M. Clark, Martha C. Gerry, Kate M. Groll, Mary E. Howard, Grace L. Sherry, Mary L. Green. *Janitor.* — Antipas Newton.

QUINCY-STREET SCHOOL.

3d Assts. — Anna F. Bayley, Annie A. Maguire.

PRIMARY SCHOOLS.

WINTHROP-STREET SCHOOL.

2d Asst. — Frances N. Brooks. *4th Assts.* — Mary E. Deane, Edith A. Willey, Alice M. Sibley. *Janitor.* — John J. Dignan.

QUINCY-STREET SCHOOL.

2d Asst. — Almira B. Russell. *4th Assts.* — Helen Crombie, Isabel Thacher, Blanche L. Ormsby. *Janitor.* — Henry C. Hunneman.

MUNROE-STREET SCHOOL.

4th Assts. — Anna A. Groll, Caroline F. Seaver, *Janitor.* — Mr. Kirby.

MARTIN SCHOOL. (BOYS AND GIRLS.)

Corner Huntington avenue and Worthington street.

Master. — Edward W. Schuerch. *Sub-Master.* — George W. Ransom. *1st Asst.* — Emily F. Carpenter. *2d Asst.* — Elinor W. Leavitt. *3d Assts.* — Emma E. Lawrence, Mary V. Gormley, Charlotte P. Williams, Grace C. Dillon, Jane F. Gilligan. *Janitor.* — Thomas M. Houghton.

PRIMARY SCHOOL.

MARTIN SCHOOL, HUNTINGTON AVENUE.

4th Assts. — Fannie D. Lane, Alicia F. McDonald, Lena L. Carpenter, Alice B. Fuller.

EIGHTH DIVISION.

AGASSIZ SCHOOL. (Boys.)

Brewer and Burroughs streets, Jamaica Plain.

Master. — John T. Gibson. *Sub-Master.* — Arthur Stanley. *1st Asst.* — Mary A. Gott. *2d Asst.* — Clara J. Reynolds. *3d Assts.* — Alice B. White, Alice Nowland, Mary E. Stuart, Mary A. Cooke, Clara I. Metcalf, Caroline N. Poole, Mary H. McCready, *Janitor.* — George A. Cottrell.

WASHINGTON-STREET SCHOOL.

3d Asst. — Josephine A. Slayton.

PRIMARY SCHOOLS.

AGASSIZ SCHOOL, BURROUGHS STREET. (*Old Building.*)

2d Asst. — Caroline D. Putnam. *4th Assts.* — Annie C. Gott, Emma M. Smith. *Janitor.* — Adelia Ronan.

WASHINGTON-STREET SCHOOL.

4th Asst. — Annie V. Lynch. *Janitor.* — Kate Morrissey.

BENNETT SCHOOL. (BOYS AND GIRLS.)

Chestnut Hill avenue, Brighton.

Master. — Henry L. Sawyer. *Sub-Masters.* — Edwin F. Kimball, William C. Crawford. *1st Asst.* — Melissa Abbott. *2d Asst.* — F. Maud Joy. *3d Assts.* — Clara L. Harrington, Mary E. Winn, Katherine McNamara, Edith H. Jones, Rose S. Havey, Annie M. Stickney. *Janitor.* — John W. Remmonds.

PRIMARY SCHOOLS.

WINSHIP SCHOOL, WINSHIP PLACE.

2d Asst. — Charlotte Adams. *4th Assts.* — Frances W. Currier, Anna L. Hooker, Emma P. Dana. *Janitor.* — John W. Remmonds.

OAK-SQUARE SCHOOL.

4th Asst. — Annie Neville. *Janitor.* — John B. Pratt.

UNION-STREET SCHOOL.

4th Asst. — Margaret I. Scollans. *Janitor.* — J. Q. A. Cushman.

HOBART-STREET SCHOOL.

4th Asst. — Leslie D. Hooper. *Janitor.* — Joseph A. Crossman.

BOWDITCH SCHOOL. (GIRLS.)

Green street, Jamaica Plain.

Master. — Charles W. Hill. *1st Assts.* — Amy Hutchins, Elizabeth G. Melcher. *2d Asst.* — Nellie I. Lapham. *3d Assts.* — Alice M. Robinson, Alice B. Stephenson, Elizabeth L. Stodder, Cora B. Mudge, Delia U. Chapman, Emily H. Maxwell, Mary A. M. Papineau. *Janitor.* — S. S. Marison.

PRIMARY SCHOOLS.

MARGARET FULLER SCHOOL, GLEN ROAD.

2d Asst. — E. Augusta Randall. *4th Assts.* — Ellen E. Foster, Olive A. Wallis, Mary E. McDonald. *Janitor.* — James A. Howe.

HILLSIDE SCHOOL.

2d Asst. — Margaret E. Winton. *4th Assts.* — Anna M. Call, Mary E. Whitney, Alice Greene. *Janitor.* — S. S. Marison.

CHESTNUT-AVENUE SCHOOL.

4th Assts. — Sarah P. Blackburn, Mary J. Capen. *Janitor.* — Thomas Alchin.

CHARLES SUMNER SCHOOL. (BOYS AND GIRLS.)

Ashland street, Roslindale.

Master. — Artemas Wiswall. *Sub-Master.* — Alaric Stone. *1st Assts.* — Maud G. Leadbetter, Angeline P. Nutter. *2d Assts.* — Elvira L. Austin, Charlotte B. Hall. *3d Assts.* — Alice M. Barton, Mary E. Lynch, Ellen J. Kiggen, Margaret F. Marden, C. Emma Lincoln. *Janitor.* — John L. Chenery.

POPLAR-STREET SCHOOL.

3d Assts. — Mary P. Crosby. *Janitor.* — Henry P. Meyers.

WISE HALL SCHOOL, SOUTH STREET.

3d Assts. — Emma Burrows, M. Alice Jackson. *Janitor.* — Frank Spinney.

WISE HALL SCHOOL, POPLAR STREET.

3d Asst. — Rachel U. Cornwell. *Janitor.* — Henry P. Myers.

PRIMARY SCHOOLS.

FLORENCE-STREET SCHOOL.

2d Asst. — S. Louise Durant. *4th Assts.* — Katharine M. Coulahan, Mary N. Sherburne, Dora M. Leonard, Martha W. Hanley. *Janitor.* — Frank Spinney.

CANTERBURY-STREET SCHOOL.

4th Assts. — Elizabeth Kiggen, Mary E. Roome, Anna M. Leach, Helen F. Lambert. *Janitor.* — Ellen Norton.

CLARENDON-HILLS SCHOOL.

4th Asst. — Almira G. Smith. *Janitor.* — Mrs. Eleanor D. Wood.

SOUTH-STREET SCHOOL.

4th Asst. — Elizabeth Breivogel. *Janitor.* — William A. Shattuck.

LOWELL SCHOOL. (BOYS AND GIRLS.)

310 Centre street, Roxbury.

Master. — Daniel W. Jones. *Sub-Master.* — Edward P. Sherburne. *1st Assts.* — Eliza C. Fisher, Anna L. Hudson. *2d Assts.* — Mary E. Morse, Cora F. Sanborn. *3d Assts.* — O. Augusta Welch, Mary F. Cummings, Helen C. Laughlin, Anna G. Wells, Rebecca Coulter, Susan E. Chapman, Ellen M. Farrell, Mary W. Howard, Sarah A. Lyons, Annie W. Leonard, Annie F. S. Stone. *Janitor.* — Frank L. Harris.

PRIMARY SCHOOLS.

LUCRETIA CROCKER SCHOOL, PARKER STREET.

2d Asst. — Ella F. Howland. *4th Assts.* — Marguerite G. Brett, Lillian G. Greene, Lillian S. Hilton, Martha C. McGowan, Flora J. Perry, Carrie A. Waugh, Jane J. Wood. *Janitor.* — Joseph W. Batchelder.

WYMAN SCHOOL, WYMAN STREET.

2d Asst. — Caroline F. Cutler. *4th Assts.* — Jean B. Lawrence, Fannie B. Wilson, Clara I. Stevens, Georgia L. Hilton, Alice E. Thornton. *Janitor.* — Thomas Alchin.

HEATH-STREET SCHOOL.

4th Assts. — Rose A. Mohan, Ellen C. McDermott. *Janitor.* — Catherine H. Norton.

NAWN'S BUILDING, CENTRE STREET.

4th Asst. — Mary C. Crowley. *Janitor.* — Joseph W. Batchelder.

ROBERT G. SHAW SCHOOL. (BOYS AND GIRLS.)

Hastings street, West Roxbury.

Sub-Master. — W. E. C. Rich. *1st Asst.* — Emily M. Porter. *3d Assts.* — Frances R. Newcomb, Marian A. McIntire, Jennie M. Jackson, Mary C. Richards, Helen S. Henry. *Janitor.* — Robert Dwyer.

WASHINGTON-STREET SCHOOL, GERMANTOWN.

1st Asst. — Achsa M. Merrill.

PRIMARY SCHOOLS.

MT. VERNON-STREET SCHOOL.

4th Assts. — Mary C. Moller, Florence I. Reddy, Mary Butler. *Janitor.*
— Robert Dwyer.

BAKER-STREET SCHOOL.

4th Asst. — Frances A. Griffin. *Janitor.* — William J. Noon.

WASHINGTON-STREET SCHOOL, GERMANTOWN.

4th Asst. — Anna R. French. *Janitor.* — Mrs. Gottlieb Karcher.

WASHINGTON ALLSTON SCHOOL. (BOYS AND GIRLS.)

Cambridge street, Allston.

Master. — G. W. M. Hall. *1st Assts.* — Marion Keith, Alice A. Swett.
2d Assts. — Sara F. Boynton, Annie E. Baneroft, Jessie W. Kelly. *3d*
Assts. — Mary F. Child, Arvilla T. Harvey, Eliza F. Blacker, Margaret C.
Hunt, Marguerite L. Lillis, Elizabeth C. Muldoon. *Janitor.* — Charles Mc-
Laughlin.

WILLIAM WIRT WARREN SCHOOL, WAVERLEY STREET.

Sub-Master. — Alexander Pearson. *3d Assts.* — Helena F. Leary, Emily
C. Brown, Mary E. O'Neill, Lydia E. Stevenson. *Janitor.* — Francis Rogers.

EVERETT SCHOOL, BRENTWOOD STREET.

3d Asst. — Ida F. Taylor. *Janitor.* — Charles McLaughlin.

PRIMARY SCHOOLS.

HARVARD SCHOOL, NORTH HARVARD STREET.

2d Asst. — Clara B. Hooker. *4th Assts.* — Adelaide C. Williams, Agnes
A. Aubin, Grace E. Nickerson. *Janitor.* — Charles McLaughlin.

AUBURN SCHOOL, SCHOOL STREET.

2d Asst. — Ella L. Chittenden. *4th Assts.* — Mary J. Cavanagh, Ger-
trude M. Bent, Lillian S. Allen. *Janitor.* — Francis Rogers.

WEBSTER SCHOOL, WEBSTER PLACE.

2d Asst. — Emma F. Martin. *4th Assts.* — Anna N. Brock, Edith S.
Wyman, Eugenia D. Bearse. *Janitor.* — Otis D. Wilde.

NINTH DIVISION.

EDWARD EVERETT SCHOOL. (BOYS AND GIRLS.)

Sumner street, Dorchester.

Master. — Henry B. Miner. *Sub-Master.* — George M. Fellows. *1st Assts.* — Mary F. Thompson, Henrietta A. Hill. *2d Assts.* — Emma M. Savil, Clara J. Doane. *3d Assts.* — Hildegard Fick, Alice E. Aldrich, Mary A. Whalen, Anna M. Foster, Harriet A. Darling, Mary E. Irwin, L. Cora Morse, Florence A. Goodfellow. *Janitor.* — George L. Chessman.

COTTAGE-STREET SCHOOL.

3d Asst. — Myra E. Wilson.

PRIMARY SCHOOLS.

EDWARD EVERETT SCHOOL, SUMNER STREET. (*Old Building.*)

2d Asst. — Florence N. Sloane. *4th Assts.* — Agnes G. Wright, Fannie Frizzell, Kittie Wark. *Janitor.* — George L. Chessman.

DORCHESTER-AVENUE SCHOOL, COR. HARBOR VIEW STREET.

4th Assts. — Cora L. Etheridge, Caroline D. Bere, Mary G. Ellis. *Janitor.* — Nathaniel H. Hall.

COTTAGE-STREET SCHOOL.

4th Asst. — Minnie E. Price. *Janitor.* — Nathaniel H. Hall.

SAVIN HILL SCHOOL, SAVIN HILL AVENUE.

4th Assts. — Lucy G. Flusk, C. Margaret Browne. *Janitor.* — Henry Randolph.

GIBSON SCHOOL. (BOYS AND GIRLS.)

Atherton Building, Columbia street, Dorchester.

Master. — William E. Endicott. *1st Asst.* — Ida L. Boyden. *2d Asst.* — Fidelia A. Adams. *3d Assts.* — Annie H. Pitts, Jessie C. Frazer, Charlotte E. Andrews, Joanna G. Keenan. *Janitor.* — Thomas Shattuck.

OLD GIBSON BUILDING, SCHOOL STREET.

Sub-Master. — F. Morton King. *4th Assts.* — E. Leora Pratt, Emily A. Evans.

PRIMARY SCHOOLS.

OLD GIBSON BUILDING, SCHOOL STREET.

4th Assts. — E. Louise Brown, Ellen A. Brown, Bessie C. Jones. *Janitor.* — James A. Hanlon.

ATHERTON BUILDING, COLUMBIA STREET.

4th Assts. — Elsie M. Littlefield, Annie E. Briggs. *Janitor.* — Thomas Shattuck.

GLEN-ROAD SCHOOL, NEAR BLUE HILL AVENUE.

4th Asst. — Grace Hall. *Janitor.* — Margaret Kelley.

GREENWOOD HALL, GLEN ROAD.

HARRIS SCHOOL. (BOYS AND GIRLS.)

Corner of Adams and Mill streets, Dorchester.

Master. — N. Hosea Whittemore. *Sub-Master.* — John F. Suckling. *1st Assts.* — Emma F. Simmons, L. Gertrude Howes. *3d Assts.* — Charlotte A. Powell, Margaret C. Schouler, M. Ella Tuttle, Cora I. Young, Almy C. Plummer. *Janitor.* — John Buckpitt.

DORCHESTER-AVENUE SCHOOL.

3d Asst. — Annie B. Drowne.

PRIMARY SCHOOLS.

HARRIS SCHOOL, ADAMS STREET.

4th Assts. — Jane T. Cook, Ida K. McGiffert, Mary E. Wilbar.

DORCHESTER-AVENUE SCHOOL.

2d Asst. — Mary Waterman. *4th Assts.* — Bertha F. Cudworth, Louise Robinson. *Janitor.* — John Buckpitt.

HENRY L. PIERCE SCHOOL. (BOYS AND GIRLS.)

Washington street, cor. of Welles avenue, Dorchester.

Master. — Horace W. Warren. *Sub-Master.* — Charles C. Haines. *1st Assts.* — Mary E. Mann, James H. Burdett. *2d Assts.* — Lizzie C. Estey, Annie A. Webster. *3d Assts.* — Lucina Dunbar, Helen A. Woods, Anna S. Coffey, Elizabeth L. B. Stearns, Mary L. Merrick, Anna K. Barry, Margaret Downey, Mary A. Crafts. *Janitor.* — Timothy Donahoe.

PRIMARY SCHOOLS.

THETFORD STREET, CORNER OF EVANS STREET.

2d Asst. — Mary E. Nichols. *4th Assts.* — Louise L. Carr, Florence C. Pond, Keziah J. Anslow. *Janitor.* — Winthrop B. Robinson.

BAILEY-STREET SCHOOL.

4th Assts. — Anna B. Badlam, Flora C. Woodman, Helen F. Burgess.
Janitor. — Winthrop B. Robinson.

MATHER SCHOOL. (BOYS AND GIRLS.)

Meeting-House Hill, Dorchester.

Master. — Edward Southworth. *Sub-Master.* — Loea P. Howard. *1st Assts.* — J. Annie Bense, Marietta S. Murch. *2d Assts.* — Mary B. Corr, Carrie F. Parker. *3d Assts.* — Clara G. Hinds, Elenora R. Clare, Jennie E. Phinney, Isabel W. Davis, Fannie Fox, Lucy J. Dunnels, M. Esther Drake.
Janitor. — Benjamin C. Bird.

LYCEUM HALL, MEETING-HOUSE HILL.

4th Assts. — Mary H. Knight, Helen E. Hobbs, Anna E. Hoss.

PRIMARY SCHOOLS.

OLD MATHER SCHOOL, MEETING-HOUSE HILL.

2d Asst. — Clara A. Jordan. *4th Assts.* — Elizabeth Donaldson, Lena Le V. Dutton, Ruth E. Browne, Elizabeth M. Grant, Lillian B. Blackmer, Florence E. Griffith. *Janitor.* — Benjamin C. Bird.

LYCEUM HALL, MEETING-HOUSE HILL.

2d Asst. — Ella L. Howe. *4th Assts.* — Alice G. Williams, Bertha E. Dennis, Grace O. Allen. *Janitor.* — Cyrus Grover.

QUINCY-STREET SCHOOL.

4th Assts. — Florence J. Bigelow, Alice L. Reinhard. *Janitor.* — Mary Leary.

MINOT SCHOOL. (BOYS AND GIRLS.)

Neponset avenue, Dorchester.

Master. — Joseph T. Ward, Jr. *1st Asst.* — Gertrude P. Davis. *2d Asst.* — Kate M. Adams. *3d Assts.* — Mary E. Glidden, Sophia W. French, Mary E. Palmer, Etta F. Shattuck, Annie H. Gardner. *Janitor.* — George P. Phillips.

PRIMARY SCHOOL.

WALNUT-STREET SCHOOL.

4th Assts. — Harriet B. Hight, S. Maria Elliott, Annie T. Kelley. *Janitor.* — George P. Phillips.

STOUGHTON SCHOOL. (BOYS AND GIRLS.)

River street, Lower Mills.

Master. — Edward M. Lancaster. *1st Asst.* — Elizabeth H. Page. *3d Assts.* — Caroline F. Melville, Clara A. Brown, Cornelia M. Collamore, Anna M. McMahon, Esther S. Brooks. *Janitor.* — A. C. Hawes.

PRIMARY SCHOOLS.

STOUGHTON SCHOOL, RIVER STREET.

4th Assts. — Carrie M. Watson, Janet B. Halliday, H. Adelaide Sullivan, Mary M. Dacey.

ADAMS-STREET SCHOOL.

4th Asst. — Edith M. Martine. *Janitor.* — Ellen James.

TILESTON SCHOOL. (BOYS AND GIRLS.)

Norfolk Street, Mattapan.

Sub-Master. — Hiram M. George. *2d Asst.* — Ida T. Weeks. *3d Assts.* — Martha A. Baker, Emeline W. Ripley, Harriet M. Gould. *Janitor.* — Peter Cook.

PRIMARY SCHOOL.

TILESTON SCHOOL, NORFOLK STREET.

4th Assts. — Elizabeth S. Fisher, Louisa W. Burgess.

KINDERGARTENS.

NORMAL SCHOOL, Appleton Street. *Principal.* — Caroline D. Aborn. *Assistant.* — Isabel C. French.

FIRST DIVISION.

ADAMS DISTRICT, PLUMMER SCHOOL. *Principal.* — Cora E. Bigelow. *Assistant.* — Helen J. Morris.

CHAPMAN DISTRICT, TAPPAN SCHOOL. *Principal.* — Jennie L. Waterbury. *Assistant.* — Mariannie H. Simmons.

EMERSON DISTRICT, NOBLE SCHOOL. *Principal.* — Flora S. McLean. *Assistant.* — Helen A. Ricker.

LYMAN DISTRICT, CUDWORTH SCHOOL. *Principal.* — Alice L. McLauthlin. *Assistant.* — Grace S. Mansfield.

SECOND DIVISION.

BUNKER-HILL DISTRICT, B. F. TWEED SCHOOL. *Principal.* — Gertrude F. Chamberlain. *Assistant.* — Grace H. Skilton.

HARVARD DISTRICT, COMMON-STREET SCHOOL. *Principal.* — Sallie Bush. *Assistant.* — Elizabeth E. Henchey.

PRESCOTT DISTRICT, POLK-STREET SCHOOL. *Principal.* — Daisy G. Dame. *Assistant.* — Phebe A. DeLande.

THIRD DIVISION.

BOWDOIN DISTRICT, SHARP SCHOOL. *Principal.* — Serena J. Frye. *Assistant.* — Sarah E. Kilmer.

ELIOT DISTRICT, 39 North Bennet street. *Principal.* — Mary C. Peabody. *Assistant.* — Alice S. Brown. *Principal.* — Isabel G. Dame. *Assistant.* — Ellen M. Murphy.

HANCOCK DISTRICT, CUSHMAN SCHOOL. *Principal.* — Anna L. Page. *Assistant.* — Mary Wall.

HANCOCK DISTRICT, 64 North Margin street. *Principal.* — Anna Spooner. *Assistant.* — Eliza A. Maguire.

HANCOCK DISTRICT, 32 Parmenter street. *Principal.* — Esther F. McDermott. *Assistant.* — Mary T. Mears.

PHILLIPS DISTRICT, BALDWIN SCHOOL. *Principal.* — Ida A. Noyes. *Assistant.* — Caroline M. Burke.

WELLS DISTRICT, WINCHELL SCHOOL. *Principal.* — Caroline C. Voorhees. *Assistant.* — Mae K. Pillsbury.

WELLS DISTRICT, 38 Chambers street. *Principal.* — Ada C. Williamson. *Assistant.* — Josephine H. Calef.

FOURTH DIVISION.

BRIMMER DISTRICT, Warrenton street. *Principal.* — Etta D. Morse. *Assistant.* — Mary E. Hazard.

PRINCE DISTRICT, CHARLES C. PERKINS SCHOOL. *Principal.* — Ellen Gray. *Assistant.* — Helen L. Duncklee.

QUINCY DISTRICT, PIERPONT SCHOOL. *Principal.* — Adelaide B. Camp. *Assistant.* — Mary H. Fruean.

FIFTH DIVISION.

DWIGHT DISTRICT, RUTLAND-STREET SCHOOL. *Principal.* — Eleanor P. Gay.

DWIGHT DISTRICT, JOSHUA BATES SCHOOL. *Principal.* — Ella T. Burgess. *Assistant.* — Edith S. Emery.

EVERETT DISTRICT, WEST CONCORD-STREET SCHOOL. *Principal.* — Clara L. Hunting. *Assistant.* — Louisa M. Davis.

FRANKLIN DISTRICT, COOK SCHOOL. *Principal.* — Lucy Kummer. *Assistant.* — Elizabeth Niel.

HYDE DISTRICT, HYDE SCHOOL. *Principal.* — Caroline E. Carr.

SHERWIN DISTRICT, RUGGLES-STREET SCHOOL. *Principal.* — Caroline E. Josselyn. *Assistant.* — Hetty B. Row.

SIXTH DIVISION.

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LAWRENCE DISTRICT, MATHER SCHOOL. *Principal.* — Amelia J. Burrill.

LINCOLN DISTRICT, CHOATE BURNHAM SCHOOL. *Principal.* — Kate S. Gunn.

SHURTLEFF DISTRICT, SHURTLEFF SCHOOL. *Principal.* — Bertha F. Cushman. *Assistant.* — Edith C. Gleason.

THOMAS N. HART DISTRICT, THOMAS N. HART SCHOOL. *Principal.* — Frieda M. Bethmann. *Assistant.* — Mary I. Hamilton.

SEVENTH DIVISION.

COMINS DISTRICT, COTTAGE-PLACE SCHOOL. *Principal.* — Annie S. Burpee. *Assistant.* — Fannie W. Bacon.

COMINS DISTRICT, SMITH-STREET SCHOOL. *Principal.* — Gertrude A. Rausch. *Assistant.* — Margaret E. White.

DEARBORN DISTRICT, YEOMAN-STREET SCHOOL. *Principal.* — Josephine Gay. *Assistant.* — Mabelle M. Winslow.

DILLAWAY DISTRICT, KENILWORTH-STREET SCHOOL. *Principal.* — Emily B. Stodder. *Assistant.* — Florence A. Fitzsimmons.

DILLAWAY DISTRICT, ABBY W. MAY SCHOOL. *Principal.* — Elizabeth C. Barry. *Assistant.* — Isabel B. Trainor.

DUDLEY DISTRICT, ROXBURY-STREET SCHOOL. — *Principal.* — Ellen M. Fiske.

GEORGE PUTNAM DISTRICT, 7 Byron court. *Principal.* — M. Elizabeth Watson. *Assistant.* — Katharine H. Perry.

HUGH O'BRIEN DISTRICT, GEORGE-STREET SCHOOL. *Principal.* — Martha Currier. *Assistant.* — Edith L. Phelan.

LEWIS DISTRICT, QUINCY-STREET SCHOOL. *Principal.* — Ellen L. Sampson.

MARTIN DISTRICT, MARTIN SCHOOL. *Principal.* — Lillian B. Poor. *Assistant.* — Annie J. Eaton.

EIGHTH DIVISION.

AGASSIZ DISTRICT, BURROUGHS-STREET SCHOOL. *Principal.* — Gertrude L. Kemp.

BENNETT DISTRICT, UNION-STREET SCHOOL. *Principal.* — Kate A. Duncklee.

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ROBERT G. SILAW DISTRICT, WESTERLY HALL. *Principal.* — Leila A. Flagg.

WASHINGTON ALLSTON DISTRICT, EVERETT SCHOOL. *Principal.* — Helena P. Stacy. *Assistant.* — Lillian Hooper.

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STOUGHTON DISTRICT, River street. *Principal.* — Alice D. Hall. *Assistant.* — Julia E. Hall.

SPECIAL SCHOOLS.

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Newbury street.

Principal. — Sarah Fuller. *Asst. Principal.* — Ella C. Jordan. *Assts.* — Kate D. Williams, Mary F. Bigelow, Sarah A. Jordan, Elsa L. Hobart, Florence E. Leadbetter, Ida H. Adams, Sally B. Tripp, Kate F. Hobart, Mabel E. Adams, Josephine L. Goddard. *Janitor.* — Henry Randolph. *Asst. Janitor.* — Adrianna Young.

MANUAL TRAINING SCHOOLS.

There are fifteen Manual Training shops, located as follows: *East Boston* — Lyman School, Paris street. *Boston* — North Bennet street; Primary School, Appleton street; Dwight School, W. Springfield street. *Roxbury* — Old High School building, Kenilworth street (two rooms). *South Boston* — E street. *Dorchester* — Lyceum Hall, Meeting-House Hill; Henry L. Pierce School, Washington street; Tileston School, Norfolk street, Mattapan. *Jamaica Plain* — Eliot School, Trustee Building, Eliot street. *West Roxbury* — Robert G. Shaw School, Hastings street. *Allston* — Washington Allston School, Cambridge street. *Brighton* — Bennett School, Chestnut Hill Ave. *Charlestown* — Medford-street School.

Principal of Manual Training Schools. — Frank M. Leavitt. *Instructors.* — Celia B. Hallstrom, Ella G. Smith, Grace J. Freeman, Edith A. Pope, Isabel Shove, J. Herman Trybom, Edwin E. McCready, Anna M. Pond, Helen I. Whittimore, Alexander Miller, Mary E. Pierce.

SCHOOLS OF COOKERY.

The School Kitchens are fourteen in number, and are located as follows: *East Boston* — Lyman School, Paris street. *Charlestown* — Harvard School, Devens street. *Boston* — North Bennet street; Winthrop; Hyde School, Hammond street. *Roxbury* — Old High School building, Kenilworth street (two rooms). *South Boston* — Drake School, Third street. *Dorchester* — Henry L. Pierce School, Washington street; Dorchester Avenue, corner Harbor View street. *Jamaica Plain* — Bowditch School, Green street. *West Roxbury* — Robert G. Shaw School, Hastings street. *Allston* — Washington Allston School, Cambridge street. *Brighton* — Bennet School, Chestnut Hill avenue.

Principal of Schools of Cookery. — Amabel G. E. Hope. *Instructors.* — Althea W. Somes, Julia M. Murphy, Josephine Morris, Ellen L. Duff, Mary C. Mitchell, Angeline M. Weaver, Emeline E. Torrey, Mary A. Tilton, Ellen B. Murphy, Nellie F. Treat, Grace D. Batchelder, Agnes A. Fraser.

SCHOOL ON SPECTACLE ISLAND.

Instructor. — Frank E. Poole.

EVENING SCHOOLS.

EVENING HIGH SCHOOL, Montgomery street. *Principal.* — Benjamin Tenney.

CHARLESTOWN BRANCH, EVENING HIGH, City Hall, Charlestown. Assistant in charge. — Fred. A. Fernald.

BIGELOW SCHOOL, E STREET, South Boston. *Principal.* — John D. Philbrick.

CHARLES SUMNER SCHOOL, Roslindale. *Principal.* — George W. Ransom.

COMINS SCHOOL, Tremont street, Roxbury. *Principal.* — William H. Furber.

DEARBORN SCHOOL, Dearborn place, Roxbury. *Principal.* — John S. Richardson.

ELIOT SCHOOL, North Bennet street. *Principal.* — William R. Taylor.

FRANKLIN SCHOOL, Ringgold street. *Principal.* — Augustine L. Rafter.

HANCOCK SCHOOL, Parmenter street. *Principal.* — Julius A. Weigmann.

LINCOLN SCHOOL, Broadway, South Boston. *Principal.* — Gustavus F. Guild.

LYMAN SCHOOL, cor. Paris and Decatur streets, E. Boston. *Principal.* — Edward P. Sherburne.

PHILLIPS SCHOOL, Anderson street. *Principal.* — John E. Butler.

QUINCY SCHOOL, Tyler street. *Principal.* — Alanson H. Mayers.

SHERWIN SCHOOL, Madison square. *Principal.* — Moses Berger.

WARREN SCHOOL, cor. Pearl and Summer streets, Charlestown. — *Principal.* — James E. Hayes.

WARRENTON-STREET SCHOOL, Warrenton st. *Principal.* — Parker B. Field.

WELLS SCHOOL, Blossom street. *Principal.* — Charles E. Hussey.

WILLIAM WIRT WARREN SCHOOL, Waverley street, Brighton. *Principal.* — Alexander Pearson.

EVENING DRAWING SCHOOLS.

EAST BOSTON, Stephenson's Block, Central Square. *Principal.* — Anson K. Cross.

CHARLESTOWN CITY HALL. *Principal.* — Albert L. Ware.

ROXBURY MUNICIPAL COURT BUILDING, Roxbury street. *Principal.* — Charles L. Adams.

MECHANIC ARTS HIGH SCHOOL, Belvidere street. *Principal.* — George Jepson.

WARREN AVENUE, LATIN SCHOOL. *Principal.* — George H. Bartlett.

TRUANT-OFFICERS.

The following is the list of the Truant-Officers, with their respective districts :

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George Murphy, <i>Chief</i> .	
Charles E. Turner.....	Adams, Chapman, Emerson, and Lyman.
Charles S. Wooffindale.....	Bunker Hill, Frothingham, Harvard, Prescott, and Warren.
James P. Leeds	Elliot and Hancock.
David F. Long	Phillips, Bowdoin, Prince, and Wells.
Richard W. Walsh	Quincy, Brimmer, and Winthrop.
A. M. Leavitt	Dwight, Everett, Franklin, and Rice.
Amos Schaffer	Lawrence and Norcross.
James Bragdon.....	Gaston, Lincoln, and Thomas N. Hart.
George W. Bean	Hugh O'Brien, Edward Everett, and Mather.
William B. Shea	Gibson, Harris, Henry L. Pierce, Minot, Stoughton, and Tileston.
Frank Hasey.....	Dearbon Lewis, and George Putnam.
Henry M. Blackwell.....	Dudley, Dilloway, and Lowell.
Daniel J. Sweeney	Comins, Martin, Hyde, and Sherwin.
Warren J. Stokes	Agassiz, Bowditch, Charles Sumner, and Mt. Vernon.
John H. Westfall.....	Bennett and Allston.
Charles B. Wood.....	John A. Andrew, Bigelow, and Shurtleff.

Truant-Office, 12 Beacon Street.

Office hour from 1 to 2 P.M.

ROSTER
OF THE
BOSTON SCHOOL REGIMENT.
1895.

BOSTON SCHOOL REGIMENT.

CAPTAIN, JOSEPH T. PAGET, INSTRUCTOR IN MILITARY DRILL.

ROSTER, 1894-5.

Colonel. — H. M. Field. (Boston Latin School.)

Lieutenant-Colonel. — S. G. H. Fitch. (English High School.)

FIRST BATTALION. (English High School.)

Major. — S. C. Sears.

Adjutant. — F. L. Watson.

Quartermaster. — A. J. Nute.

Sergeant-Major. — S. L. Gahm.

Quartermaster-Sergeant. — T. F. Sullivan.

Color-Sergeant — A. E. Heimann.

COMPANY A. *Captain.* — G. H. Griggs; *First Lieutenant.* — J. E. McCarthy; *Second Lieutenant.* — S. H. Cushing; *First Sergeant.* — J. F. Finnegan.

COMPANY B. *Captain.* — M. E. Webb, Jr.; *First Lieutenant.* — C. H. Comey; *Second Lieutenant.* — W. H. Parker; *First Sergeant.* — C. M. Bill.

COMPANY C. *Captain.* — W. L. Aldrich; *First Lieutenant.* — J. M. Stewart; *Second Lieutenant.* — T. J. Lawler; *First Sergeant.* — H. M. Mitchell.

COMPANY D. *Captain.* — G. E. Emmins; *First Lieutenant* — G. W. Mansfield; *Second Lieutenant.* — F. J. Norton; *First Sergeant.* — H. N. Dunbar.

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COMPANY F. *Captain.* — H. W. Soule; *First Lieutenant.* — S. W. St. Clair; *Second Lieutenant.* — S. L. Leftovith; *First Sergeant.* — H. R. Puffer.

COMPANY G. *Captain.* — B. S. Luther; *First Lieutenant.* — R. Loring; *Second Lieutenant.* — A. T. Granger; *First Sergeant.* — L. S. Murphy.

COMPANY H. *Captain.* — C. P. Blinn, Jr.; *First Lieutenant.* — M. J. Finn; *Second Lieutenant.* — W. H. Batum; *First Sergeant.* — G. C. Rowell.

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Adjutant. — F. Peterson. (East Boston High School.)

Quartermaster. — G. L. Lewis. (West Roxbury High School.)

Sergeant-Major. — K. H. Weinschenk (Dorchester High School.)

COMPANY A. (Roxbury High School.) *Captain.* — L. W. Schlegelmilch;
First Lieutenant. — J. J. Aylward; *Second Lieutenant.* — R. W. Heroins.

COMPANY B. (Dorchester High School.) *Captain.* — W. C. Mair;
First Lieutenant. — J. A. Andrew; *Second Lieutenant.* — J. W. Nisbet.

COMPANY C. (Roxbury High School.) *Captain.* — W. L. Leighton;
First Lieutenant. — H. B. Morse; *Second Lieutenant.* — E. R. Emerson.

COMPANY D. (Dorchester High School.) *Captain.* — J. F. Lynch;
First Lieutenant. — H. W. Lang; *Second Lieutenant.* — A. C. McDonald.

COMPANY E. (Charlestown High School.) *Captain.* — E. A. Paul; *First Lieutenant.* — P. C. McMahon; *Second Lieutenant.* — C. J. Carter.

COMPANY F. (Brighton High School.) *Captain.* — J. M. Waters; *First Lieutenant.* — S. R. Randall; *Second Lieutenant.* — L. H. Pierce.

COMPANY G. (West Roxbury High School.) *Captain.* — A. C. W. Whittemore; *First Lieutenant.* — G. L. Lewis; *Second Lieutenant.* — W. T. Conway.

COMPANY H. (East Boston High School.) *Captain.* — J. D. Adams;
First Lieutenant. — L. L. Jenkins; *Second Lieutenant.* — T. H. Dalton.

COMPANY L. (Roxbury High School.) *Captain.* — A. H. B. Arnold;
First Lieutenant. — G. Pierce; *Second Lieutenant.* — H. R. Good.

COMPANY M. (Roxbury High School.) *Captain.* — R. P. Roberts; *First Lieutenant.* — E. B. Davis; *Second Lieutenant.* — H. J. Cleary.

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Sergeant-Major. — F. W. Morrison.

Quartermaster. — T. M. McLacklan.

COMPANY A. *Captain.* — F. O. White; *First Lieutenant.* — J. T. Cronin;
Second Lieutenant. — H. G. Robinson.

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Second Lieutenant. — E. E. Davidson.

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COMPANY H. *Captain.* — G. W. Fuller; *First Lieutenant.* — J. H. Kelly; *Second Lieutenant.* — L. W. Pierce.

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Adjutant. — C. M. Balkam.

Quartermaster. — W. F. Barnstead.

Sergeant-Major. — H. Hyman.

Quartermaster-Sergeant. — M. L. Bernstein.

Color-Sergeant. — C. O. Barnes.

COMPANY A. *Captain.* — T. W. Bailey; *First Lieutenant.* — E. S. Bennett; *Second Lieutenant.* — C. W. French; *First Sergeant.* — G. G. Dow.

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COMPANY H. *Captain.* — N. S. Hope; *First Lieutenant.* — W. L. Fitzpatrick; *Second Lieutenant.* — J. P. Hinchy; *First Sergeant.* — G. W. Emery.

Drum Corps.

Drum-Major. — J. F. Lentine.

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