

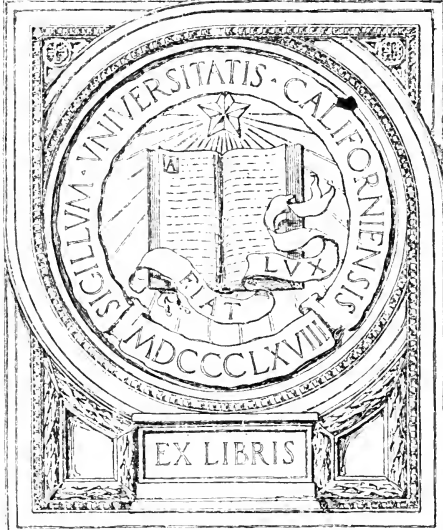
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THE FINANCE COMMISSION

OF THE

CITY OF BOSTON

REPORT ON

THE BOSTON SCHOOL SYSTEM



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REPORT ON BOSTON SCHOOL SYSTEM.

BOSTON, October 7, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—Your Honor has invited the Finance Commission “to conduct such an inquiry into the methods of the School and Schoolhouse Departments and the results attained as shall either satisfy the public mind of the need of these increased expenditures or suggest a specific policy of retrenchment.”

In response to this request the commission has investigated the school system of Boston. The commission has received valuable assistance both from the labors and the experience in school matters of the Director of its Bureau of Research. Because of the many difficulties in securing school data from other cities, as well as the pressure of other work, the report has been delayed for a longer time than had been anticipated. It is now presented to your Honor in five parts, as follows:

- Part I. Introductory.
- Part II. Development and Growth of the Schools.
- Part III. Financial Review.
- Part IV. Comparison with Other Cities.
- Part V. Conclusions and Recommendations of the Commission.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

PART I. INTRODUCTORY.

The complaint of the heavy cost of the schools is by no means a new one. The records show that as early as 1751 a committee appointed to make inquiry into the state of the town and the causes of the great expense thereof reported that "the Charge of supporting the several Publick Schools amounted the last Year to more than $\frac{1}{3}$ part of the whole Sum drawn for by the Selectmen"; but the committee wisely added, "altho. this Charge is very Considerable & the number of Schools is greater than the Law requires, Yet as the Education of Children is of the greatest Importance to the Community; the Committee cannot be of Opinion that any Saving can be made to Advantage on that head." (See Document No. 18 of 1888, page 37.)

It is interesting to note that the Boston schools cost less proportionately last year than they did in 1751, nearly 160 years ago; the appropriations for supporting the schools from the tax rate last year (1910) being less than one-third of the total municipal appropriations (excluding those for interest, sinking fund and state and county expenses), namely, \$3.64 out of \$12.90.

It is sometimes said that the schools to-day are not as efficient as they were in the days vaguely referred to as "the past" and particular emphasis is laid upon the manner in which the "three R's" are said to be neglected in contrast with the thoroughness with which they were taught in the days of old. This complaint, like that as to the excessive cost of schools, is not a new one. There are on file in the offices of the School Committee certain bound volumes of written examinations held in the grammar schools in 1845, as to which the committee on annual examinations of that year (City Document 26 of 1845, page 9) said:

“It is very difficult to believe that in the Boston schools there should be so many children in the first classes unable to answer such questions; that there should be so many absurd answers; so many errors in spelling, in grammar and in punctuation.”

On page 17 the committee said:

“These answers show beyond all doubt that a large proportion of the scholars of our first classes, boys and girls of fourteen or fifteen years of age, when called upon to write simple sentences, to express their thoughts on common subjects without the aid of a dictionary or a master, cannot write without such errors in grammar, in spelling and in punctuation as we should blush to see in a letter from a son or daughter of their age.”

In 1852 the committee on examinations (City Document 50 of 1852, page 7) undertook to refute the charge “that the public schools of the city are as a whole deteriorating, that our teachers as a body are becoming faithless to the sacred trust reposed in them, and that our children for whose education so much of the public treasure is annually and freely expended are not receiving any adequate return for all this outlay, but are sent forth with only the husks of an education.”

In 1854 the School Committee (City Document 74 of 1854, page 27), speaking of spelling, said: “The average number of errors in a list of words in ordinary use, selected for the purpose of examination of the first classes, was far greater than was anticipated and shows the necessity of an increased attention to this subject.” Of reading, it said (*id.*, page 28), that in some schools “a style of reading has been introduced and encouraged whose object would seem to be to leave truth and nature out of view and substitute an artificial standard in their place.” As to writing (*id.*, page 29), the comment was that while there was a good degree of proficiency, “It would perhaps be better if more of the time devoted to writing were spent upon what is essential and practical rather than upon the ornamental branches of the art”; of grammar (*id.*, page

31), "Some pupils, who could parse and analyze remarkably well used incorrect language in conversation"; of arithmetic (*id.*, page 32), "Sufficient care is not always taken to make the pupil understand the principles of arithmetic and the reason for the processes performed. The result of the examination shows that mistakes in simple numeration, addition, subtraction, multiplication and division are among those most frequently made even by advanced pupils."

In 1859 the accusation was made that the children were overtasked and overstimulated, the system being called a "high pressure system," a "forcing system," a "cramming machine," "disastrous to the mental and bodily health of pupils." (School Committee Report for 1859, page 53.)

In 1875 (Annual School Report, page 12) the School Committee said:

"It is common to hear unfavorable contrast drawn betwixt the scholarship and fitness for practical life of graduates of the present and of former times when studies were fewer and expenditures smaller."

In speaking of the character and qualifications of the teachers, the same committee said (*id.*, page 16):

"Your committee have to reiterate long-standing criticisms that many of the teachers are far from what they ought to be, in view of the work which should be expected of them and of the high salaries they receive. In many districts the standard of teachers' qualifications has been steadily lowered. Instead of selections being made from the best-educated applicants, especially from those of a normal school training or of an experience the equivalent of such training, considerations of sympathy for the candidate's poverty, of personal friendship or of political influence have decided the choice. Granted that altogether such selections are fewer than formerly, still they have existed to a most pernicious extent in schools which could least afford to suffer from them."

In 1883 the Governor of the Commonwealth in his inaugural made an attack upon the system of education

in Massachusetts, and particularly upon the Boston schools, for their alleged failure to meet the needs of the common people. (See pages 685, 686.)

So from year to year, and at the present time, similar complaints have been and are being made. They all have a certain element of truth, as will appear in the course of this report; but it would be unfair to take them too broadly. The fact cannot be ignored that all the while there has been flowing through the schools a stream of children who have gone out into the community, taken their places in the world, and quietly and effectively discharged the duties that have fallen to their lot, demonstrating that the schools, with all their imperfections, have been doing good work in spite of criticism.

It is easy enough to pick out a child, or a large number of children, who cannot read, write, spell or cipher correctly. There are undoubtedly many children now as always who do not, many of whom cannot, profit by the schools; there are some poor and inefficient teachers now as always; but the product of the schools as a whole has been and is good. Samples can be shown of splendid work done as well as samples of poor work. Neither extreme can be safely accepted in reaching a final judgment.

As far back as 1875 the School Committee (Annual Report, page 16) said:

“The modern school is now called upon to teach many of the rudimentary virtues of which the homes are destitute, and children of vicious habits and coarse manners, who increase in numbers annually in the mixed population of a great city, gravely complicate the difficulties in the teacher’s task of preserving a high moral tone in the mass of pupils.”

The real question is not whether every child who passes through the schools comes out a highly developed scholar and a model citizen, but whether the schools with their limitations are making as much as can reasonably be expected of the varied material with which they are obliged to deal. A definite solution of this

problem can of course only be had by studying each child, its origin, its environment and its entire career, both in the schools and in after life; and even then the elements necessary for passing judgment are so complicated and so uncertain that it would be difficult to reach a right conclusion. Isolated statements of individual cases are of little value. Attempts have been made to follow graduates of particular schools into the colleges and technical schools, sometimes with favorable and sometimes with unfavorable results; but such an inquiry must necessarily be limited in scope and unsatisfactory. A broader investigation along these lines would include the stores, the workshops and the homes; but this seems, for the present at least, impracticable. The effort, however, should not be abandoned; the time will come when such an inquiry can and will be effectively made. It was with this thought in mind that the Board of Superintendents in 1908 recommended that records of the life and occupation of the various graduates be kept at the several schools, with the co-operation of principals and teachers and associations of graduates and other organizations interested in educational activities.

The next best way to judge of the efficiency of the schools is to see what they are trying to do and how they are trying to do it. Are the school authorities recognizing the imperfections and are they trying to overcome them?

The Boston public schools have reached their present position through a process of evolution. The city has been singularly fortunate in the number of able men and women who have helped to shape its school policy. The names of Chief Justice Shaw, Horace Mann, Nathan Bishop, John D. Philbrick, Samuel Eliot, Edwin P. Seaver, George H. Conley, Samuel B. Capen, A. Lawrence Lowell, Ellis Peterson, Sarah Louise Arnold and many others at once suggest themselves. They have all been working toward a well-defined goal of school efficiency and their work has been, and is, ably supplemented by those now in the service.

Progress at first was slow. Doctrines that to-day are accepted as truisms found in the early days much hostility, few listeners and almost no converts.

Among these truisms is the statement that educational efficiency demands:

- 1, effective supervision;
- 2, good school buildings;
- 3, a curriculum broad enough to meet the varied needs of the community, both cultural and vocational;
- 4, well-selected text-books and other school supplies;
- 5, capable and well-trained teachers;
- 6, a small quota of pupils to teachers;
- 7, healthy children, physically capable of receiving instruction.

At no period in the history of the Boston schools have these essentials been more fully recognized and cared for than to-day. No one will dispute that they are essentials, and no one would be willing to give them up; yet they are the true reasons for the present heavy cost of schools.

These various subjects will be considered in detail in Part II. of this report.

PART II. DEVELOPMENT AND GROWTH OF THE PUBLIC SCHOOLS.

CHAPTER I. OUTLINE OF THE HISTORY OF THE SCHOOLS.

SECTION 1. PERIODS OF DEVELOPMENT.

The history of the Boston public schools may be divided into the following periods (see School Document 18 of 1888, School Document 3 of 1903, School Document 17 of 1906):

1635-84.

In which there were no elementary schools for children generally, and there was only the Latin School for fitting boys for college.

1684-1740.

When in addition to the Latin School there were schools "for the teaching of children to write and cypher" under writing masters.

1740-1847.

When the writing schools were gradually developed into grammar schools, under what is known historically as "the double-headed system," the pupils in each school being half the day under the direction of the writing master and half the day under the grammar master. "This unique arrangement prevailed in the Boston schools for more than one hundred years."

1847-76.

When the "single-headed system" superseded the "double-headed system" and the paramount authority of the grammar master was recognized; the office of superintendent of schools established; a period of reconstruction and enlargement.

1876 to the Present.

A period of systematizing and unifying; the extension of the system of supervision through a board of superintendents, directors and principals; the gradual recognition of the value of professional knowledge and experience in educational matters; the duties of the School Board becoming mainly legislative, the details of administration being performed by paid officials with executive responsibility.

SECTION 2. THE ERA OF FINANCIAL INDEPENDENCE.

Thirteen years ago the schools entered upon a new era which may be called a period of financial independence. Prior to 1898 the School Committee was dependent for the funds necessary to carry on the schools on appropriations made by the City Council. Disagreements arose between the appropriating and spending powers. The City Council was niggardly and the schools suffered in consequence. In 1898 (Acts of 1898, ch. 400) the Legislature passed an act making the School Committee financially independent of the City Council by giving it a specific part of the tax levy, from which it has since annually made its own appropriations, subject only to the Mayor's approval or veto. During this period the School Committee practically has had a free hand and the school system has developed as never before.

SECTION 3. DEFINITION OF CERTAIN TERMS USED
HEREIN.

It is this period of thirteen years of financial independence, 1898-1911, which will form the main subject of this report. For convenience of comparison this period may be further divided into two other periods, the line of demarcation being the year 1906, when, as hereafter explained, the School Committee of twenty-four members was succeeded by the School Committee of five members. For brevity and clearness the period of thirteen years from January 31, 1898, to January 31, 1911, will throughout this report be called "the period"; the period of eight years from January 31, 1898, to January 31, 1906, under the School Committee of twenty-four members, will be called "the first sub-period"; and the period of five years from January 31, 1906, to January 31, 1911, under the School Committee of five members, will be called "the second sub-period." The last year of the system of appropriations by the

City Council, 1897-98, the last year of the former School Committee of twenty-four members, 1905-06, and the last school year, 1910-11, will be principally used in making comparisons as fair representatives of their respective periods and subperiods.

A review of the school system and the work accomplished during the period of thirteen years will help to a proper understanding of the situation.

CHAPTER II. SUPERVISION.

SECTION 1. THE SCHOOL COMMITTEE.

The following table shows the changes in the composition of the Boston School Committee from 1635 to the present time.

	Number of Members.
1635-1789. Selectmen	9
1789-1822. Selectmen and one from each ward	21
1822-1835. Mayor, Aldermen and one from each ward	25
1835-1854. Mayor, president of Common Council and two from each ward	26
1855-1875. Mayor, president of Common Council and six from each ward	74 to 116
1876-1885. Mayor and twenty-four elected at large	25
1885-1905. Twenty-four elected at large	24
1906. Five elected at large	5

In addition to the regular School Committee there was a primary School Committee from 1818 to 1854, with a membership varying from 36 to 196.

From this table it appears that Boston has tried a large variety of experiments in school administration. The large School Committee with local representation was twice tried, once with the primary School Committee from 1818 to 1854, when the membership reached 196, and once with the regular School Committee from 1854 through 1875, when the membership reached 116.

In 1871 (Annual School Report for 1871, page 363) it was pointed out that the membership of the regular School Committee was too large for the efficient and economical transaction of business.

In 1876 (Annual School Report, page 4) the School Committee in commenting upon the situation said:

“Boston has administered its schools through a board of 116 persons. Some among them had never given any thought to the subject upon which they were called to legislate, and others had just that amount of knowledge which is ‘a dangerous thing.’ The rest formed a small nucleus of men well qualified for their position, though not always able to fill it to their own satisfaction, as their wisest measures were subjected to the decision of a controlling majority. In one particular, however, all the members labored under an equal disadvantage, namely, a want of time to attend to their assigned duties, however willingly they would have performed them.”

For these and similar reasons the Legislature reduced the size of the committee to twenty-five members, consisting of the Mayor and twenty-four others elected at large. (Acts of 1875, ch. 241.) The Mayor was dropped from the committee in 1885 (chapter 266, section 10), leaving the number of members twenty-four elected at large.

The desire apparent in all parts of the country to reduce the number of elective officials and to concentrate the attention of the voters upon a few names on a short ballot led to a further reduction in the membership to five in 1906. (Acts of 1905, ch. 349.)

Coupled with this reduction in the number of the committee there was of necessity an increase in the force of trained administrators both on the business and educational side of the school system. It is manifest that neither twenty-four nor five members, serving without salary, could give the time personally to administer in all their details the schools of so large a city as Boston. The most that could be expected of them was to study the large problems as they arose and lay out a general line of school policy. This is the true school system, at which Boston has fortunately arrived through a painful process of evolution.

SECTION 2. EDUCATIONAL SUPERVISION.

1. *Superintendent and Supervisors.*

In the "first subperiod" the supervising force consisted of a superintendent, who with six supervisors constituted the Board of Supervisors, chosen, as had been done since 1875, by the School Committee for terms of two years, under the provisions of chapter 241 of the Acts of 1875. The superintendent, under the rules, was the representative of the School Committee in matters relating to instruction, and the supervisors under his direction visited and supervised the schools, examined pupils and teachers, and generally acted as "the executive board of the School Committee." There was at first friction between the superintendent and the supervisors, relating to their respective ranks, and in 1884 (School Minutes of 1884, page 171) the rules were amended making the superintendent "the executive in the department of instruction over all supervisors, principals and other instructors." Prior to 1898, however, neither he nor the supervisors had any real power, the actual administration of the schools being in numerous subcommittees and in individual members of the School Committee. Efforts were repeatedly made to change the rules, enlarging the powers of these officials, and in 1898, and again in 1902, after a prolonged and bitter controversy, a partial success was achieved. A running fight, however, was kept up by certain members of the School Committee, who resented all encroachments upon what they regarded as their prerogatives and who constantly interfered with and often overthrew the action of the superintendent and supervisors. Frequently personal and political considerations wholly unconnected with, and dangerous to, the welfare of the schools dominated these contests.

2. *Centralization of Authority.*

With the advent of the new committee of five members in the "second subperiod" a change has taken place looking toward a greater centralization of authority

and the unification of the school system. This has excited unfavorable criticism from some of those who advocate an extreme form of individual freedom for principals and teachers and who have failed to see just what is intended. Boston schools have become famous through a line of illustrious school principals from the days of Philemon Pormort and the "famous Master Cheever" of the early Latin School, to those of Francis Gardner, Thomas Sherwin, James A. Paige, Sarah Fuller, John Tetlow, Edward Southworth, and many others who might be mentioned, whose remarkable personalities have enabled them to win great reputation for themselves and their schools. It is argued by the critics of centralization and unification that in the future this great advantage is to be lost. The Finance Commission has given careful consideration to the suggestion, but is convinced that the plan which was adopted in 1906 and which is only now beginning to be well enough understood to get a fair trial, has not had, and probably never will have, any such effect. Its aim is to keep a very large share of individual freedom and initiative for the principals and teachers, while providing the additional advantage of intelligent oversight of the entire system by the Board of Superintendents with the superintendent as the responsible executive head. There is no thought, as has been feared by some, of autocratic, dictatorial management from the superintendent's office, with consequent loss of initiative, responsibility and interest in the teachers. With such a fear in mind many teachers have viewed the change with a not unnatural jealousy and certain reactionary elements are undoubtedly still hostile to it; but time is gradually demonstrating the wisdom of the change, and even the extreme conservatives are coming to see the situation in its true light. In the opinion of the Finance Commission it can fairly be said that what was in 1906 an experiment viewed by many sincere friends of the schools with distrust, is now a policy standing fully justified by its results after five years of severe test.

3. *Board of Superintendents.*

The need of a supervising force of large powers and responsibility and a reasonably permanent tenure led the Legislature by Acts of 1906, chapter 231, to substitute a Board of Superintendents for the former Board of Supervisors. The statute provides that the School Committee shall elect a superintendent for a term of six years and six assistant superintendents, one each year for a similar term of six years. The change was intended to be something more than a mere change of name and tenure, and new rules have been adopted by the School Committee, giving large executive powers to the new officials. One of the assistant superintendents, who had been a supervisor and prior to that a master in the schools, described the change in these words:

“Under the old régime, when I was a supervisor, I could go into a school and I might advise as much as I liked, but I could not enforce anything. When I was master it was the same; while I had the utmost respect for the supervisor, I knew that he could not do anything. Now that is all changed; they have given us any quantity of duties, and they have given us the power to discharge those duties.”

Under the rules the superintendent is still the executive officer of the School Committee in all matters relating to instruction, but he is so in fact and not merely in name. Subject to the approval of the committee, he appoints, reappoints, transfers and removes all members of the supervising force except the assistant superintendents and all teachers, consulting, in the original appointment or in the transfer of subordinate teachers, the principal of the school or district and the assistant superintendent in charge or the director of the special department affected; he may reprimand or suspend, with or without pay, for a period not exceeding one month, any member of the supervising staff or teacher for due cause, keeping a record of his action, with his reasons, open to inspection by members of the

School Committee; he may grant leaves of absence in accordance with the regulations; he may make such arrangements and give such instructions, not contrary to the rules and regulations and orders of the School Committee, to assistant superintendents, members of the supervising staff and teachers and to the truant officers as in his judgment the interests of the school system may require; and he has other executive duties set forth in the rules. He is required, except when the election or salary of superintendents is under discussion, to be present at all meetings of the School Committee, and he has the same right as a member to participate in debate and to present orders. He submits annually a printed report, giving an account of the duties he has performed, together with such facts and suggestions relating to the school system as he may deem expedient, and submits annually in print a statement of school statistics. He is a member and *ex officio* chairman of the Board of Superintendents, which meets practically every week during the school year.

The duties of the assistant superintendents, as a Board and individually, are many and arduous. The Board is required to give written opinions on any question when so requested by the superintendent, the School Committee or any member thereof who formally presents such request for insertion in the minutes. It prepares all courses of study, submitting the same to the School Committee for approval; determines the proper standards to be attained in each grade and class and the best methods to be pursued with respect to instruction therein; reports on books, globes, maps and charts before action by the School Committee; awards diplomas to graduates; prepares for and conducts examinations of candidates for certificates of qualification as members of the supervising staff, teachers and interpreters; and performs other duties set forth in the regulations.

Each assistant superintendent is the direct representative of the superintendent in the school or district to

which he is assigned, and as such has full authority, not contrary to the rules and orders of the School Committee or the instructions of the superintendent, with respect to all matters of organization, instruction and discipline; is required by the rules to visit the schools assigned to him, both day and evening, as often as practicable; and performs such other duties as the superintendent may direct.

Complaints have been made that the time of assistant superintendents is taken up with petty matters, mainly clerical, that more important matters suffer in consequence, and that the duty of visiting the schools is neglected.

The Finance Commission has caused a careful investigation of these complaints to be made, has had an examination made of the official minutes of the Board of Superintendents, in connection with the testimony of its members, and has considered such other evidence as it has been able to obtain. The superintendent and each assistant superintendent (except one new member recently elected) have been fully questioned, and have answered with the greatest freedom.

They point out that, while the schools have grown enormously in the thirty-six years since 1875, the number of assistant superintendents, six, is precisely the same as the number of supervisors in that year; and they assert that frequent visitation of all the classes in all the schools is impossible, in view of their growth in numbers, and of the many other quite as important duties which must be performed. But all the assistants state that they pay many visits to the schools and particularly to such teachers as have need of their help. They say that certain teachers whose qualifications are well known and who have demonstrated their efficiency need no visitation, the supervision of the master of the school being sufficient; that substitutes are cared for by the supervisor of substitutes and her assistant; and teachers of special subjects by the directors of those subjects.

The Finance Commission is satisfied that the assistant superintendents observe both the letter and the spirit of the rule which requires that the schools shall be visited "as often as practicable," and it believes that they are in no way chargeable with neglect of duty in this respect; but it is also satisfied that more frequent visitation of individual classes would be of benefit, and as this cannot be done by the present force of six assistant superintendents, that some method should be devised to meet this real need. It is possible that an enlargement of the department under the supervisor of substitutes, as hereinafter suggested, may help to solve the problem.

The commission believes that very little of the work performed by the Board of Superintendents is in any true sense petty and that many of the subjects considered are of large importance, requiring and receiving full and careful thought. There are, of course, many things done both by the Board and by the individual members which seem of a petty nature and consume much time; but upon examination these have been found to be quite as important as some of the seemingly larger matters. The schools belong to the people and must deal with all classes in the community,—with teachers, parents and children, and with a great variety of conflicting interests. Many of the questions which arise involve phases of human nature which must be handled with tact, patience and judgment, and cannot be delegated to subordinates. Each by itself may seem to an outside observer petty; but it is not so to the parties interested.

As to the charge that too much time is occupied with clerical work, all the members were questioned, and, while regretting that because of insufficient stenographic assistance they have been forced to do such work at all, they insist that the larger interests are not thereby neglected.

The superintendent was asked this question: "The criticism has been made that, in passing upon the

results of examinations, the Board of Superintendents merely performs the clerical duty of adding up the figures and passing upon the standing of candidates for appointment in a perfunctory way. Is there any truth in that?"

He answered that there was not,—the papers coming before the Board with the clerical work already performed in the office of the secretary. After giving an account of how the Board marked candidates for appointment as to length, quality and character of service, he added: "It is a pure question of professional judgment."

Q. "Do you believe that that is essential to the good of the service?"

A. "Very much more essential than the mere figures of their scholarship."

The superintendent made a similar statement as to examinations for promotions, and like testimony was given by the assistant superintendents. The superintendent said that another stenographer was needed, and another has since been provided. There are now two stenographers at the service of members of the Board; if more are needed, more should be provided.

4. *Principals.*

Each Latin and high school, and each elementary school district, is in charge of a principal. In the elementary districts there are usually several buildings in different parts of the district, over all of which the principal has supervision. Under the rules each principal is the responsible administrative head of his school or district and is charged with its organization; with the supervision and direction of teachers, pupils and employees; with the enforcement of the rules and regulations and such directions as he may receive from the superintendent or assistant superintendent or the School Committee; and with the general maintenance of order and discipline. Among other important duties

is that of personally inspecting the work of teachers and others who are on probation and reporting thereon to the superintendent.

All complaints from parents or guardians are, in the first instance, referred to the principal, who is required by the rules to "patiently hear and impartially investigate the same, using his best endeavors to redress any real grievances and referring such as he cannot satisfactorily adjust to the assistant superintendent in charge."

The powers of the principal are quite broad, and amply sufficient for the development of any valuable personal qualities he may possess.

The keeping of records and the making of reports of various kinds, much of which is of a clerical nature, require much of the time of a principal or of his assistant. To relieve the Latin and high school masters from the clerical work, the position of clerical assistant was established in 1908. Efforts have been made to secure clerical assistants for the masters of the elementary schools, but thus far the School Committee has not felt justified in authorizing the large expenditure involved. It would probably prove an actual economy, however, as clerical work ought not to be done by such highly educated and highly paid officials.

5. *Directors and Supervisors of Special Subjects.*

To secure more effective supervision of certain special subjects the following officials have been appointed, some prior to and some during the "period," all subject to the authority of the superintendent:

1. Director of drawing and manual training.
2. Director of evening and continuation schools.
3. Director of kindergartens.
4. Director of music.
5. Director of school hygiene.
6. Supervisor of substitutes.
7. Supervisor of household science and arts (which includes cookery, sewing and industrial work for girls).
8. Supervising nurse.

The criticism has been made that some of these positions are superfluous and only add to the school expense without giving a corresponding value; but this has not been found to be the case. These directors and supervisors supply a need which is not otherwise met. Moreover, most if not all of them are essential parts of a well-considered administrative system.

6. *Secretary to the Superintendent.*

With the reorganization of the school system in the "second subperiod," a greater degree of executive responsibility was centered, as has been shown, in the office of the superintendent. There had been attached to the office a chief clerk, whose duties, as the name implies, were mainly clerical. The new situation made it desirable that there should be in the office a representative of the superintendent, capable of assisting him on the larger side of his work, who could on proper occasions assume responsibility. As the duties and responsibilities had changed it was felt that the title also should be changed; accordingly last year the School Committee voted to raise the rank and title of the office from chief clerk to that of secretary to the superintendent. This action was criticised at the time and the increase of salary which accompanied it was passed over the Mayor's veto, but the Finance Commission believes the change was justifiable and in the line of wise administration.

7. *Truant Officers.*

The laws of Massachusetts in regard to school attendance and truancy are quite stringent. In 1898 (Acts of 1898, ch. 496) there was a complete codification, embodying many carefully considered amendments and improvements of the laws. The age requirement, which had been "between the years of eight and fourteen, and in cities and towns where industrial training is taught between the ages of eight and fifteen," was changed to "between seven and fourteen years of age," and this in 1905 (Acts of 1905, ch. 320) was further amended to

include children "under sixteen years of age who cannot read at sight and write legibly simple sentences in the English language." Illiterates over fifteen and under twenty-one are required to attend evening schools or a day school.

The provisions of the law are complicated and not readily understood; there are many exceptions to it, making it difficult of enforcement. Certain children are naturally truants; and in addition there are needy parents who are anxious that their children shall begin to earn money as soon as possible, and who, not realizing the great wrong they are doing the child, connive at any evasion of the law. For these reasons a strong force of truant officers is necessary to secure attendance and to perform the many duties which the law and custom place upon them. In addition to their regular duties they co-operate unofficially but effectively with the Overseers of the Poor and various philanthropic organizations and individuals.

In 1897-98 there were nineteen truant officers, including the chief, and in 1910-11 there were twenty-two, all appointed from the civil service lists.

In 1898 the number of cases investigated by the truant officers was 22,256, of which 6,700 were found to be truants and 270 were complained of as incorrigible. (School Document No. 13 of 1898, page 10.) In 1910 the number of cases investigated was 46,508, of which only 5,302 were found to be truants and only 249 were brought before a court. Thus while the number of pupils in the day schools increased about one third, the number of cases investigated more than doubled, while the number brought into court actually decreased. This indicates more thorough investigation and more successful handling of the cases.

SECTION 3. BUSINESS MANAGEMENT.

1. *Auditor.*

Prior to 1906 the business affairs of the schools, under the rules, were in the hands of the Committee on Sup-

plies (which purchased supplies) and the Committee on Accounts (which audited the school expenditures). The Acts of 1875, chapter 241, section 4, required the School Committee to choose an auditing clerk, which was accordingly done. In 1879 the present auditor was chosen auditing clerk, and he has held the position ever since, a period of thirty-two years. In that capacity he was clerk of the Committee on Accounts. The duties of auditing would seem to preclude the possibility of the same person acting as auditing clerk and purchasing agent; but as the Committee on Supplies needed a purchasing agent and as the auditing clerk developed a remarkable power of shrewd and close buying, they were glad to avail themselves of his services. For many years the present auditor acted in the dual capacity of purchasing agent for the Committee on Supplies and auditing clerk for the Committee on Accounts.

In 1906 this anomalous situation was abolished, at least temporarily, by the establishment under the Acts of 1906, chapter 318, of the separate offices of auditor and business agent. With the reduction in the size of the School Committee, the Committees on Supplies and Accounts disappeared and their duties were transferred to the auditor and business agent. The auditing clerk was continued as auditor, but he was not confined to the duties properly belonging to his office and he continued to discharge the duties of a purchasing agent, while the new business agent was given the duties of auditor. No serious harm seems to have resulted from these misnomers, but there is no good reason for their continuance. The auditor clearly should audit and the business agent should transact business. At the present time the old situation has been revived, through a leave of absence accorded the auditor in recognition of his long and faithful service and the appointment of the business agent as acting auditor; so that the purchasing and auditing are again in the same hands, which manifestly should not be allowed to continue for any length of time.

Under the rules the auditor is the executive officer of the School Committee with respect to the purchase, storing and distribution of all supplies for use in the school system, including printing, postage and the transportation of pupils. He is required whenever possible to obtain competitive bids for furnishing any article or articles the estimated cost of which is in excess of \$100, and unless the School Committee otherwise directs he must advertise in the *City Record* for proposals to furnish any article or articles except books the estimated cost of which is in excess of \$500, and can authorize no single expenditure in excess of \$500 without the authority of the School Committee. He must certify to correctness of purchases and charges, prepare the annual appropriation order and submit to the School Committee an annual report. He is under bonds in the sum of \$10,000.

The Finance Commission has had the books of the auditor and the methods of purchase carefully examined by a competent accountant, and is satisfied that purchases are made with great economy and that there is little or no opportunity for retrenchment in matters under his jurisdiction. There has been some question as to whether books are purchased at as low prices as in several cities in the South and West. In Boston books are bought as needed and not, as in certain other cities, by contract for a term of years. The auditor has felt that, owing to the changes in the authorized lists from time to time, and also because of large allowances which he receives in exchanging old books for new, this system of buying is on the whole the most economical. The contract system is sound whenever it is applied to supplies which need not be changed. Text-books, however, must be changed as better books are published, for the interests of education are paramount. Therefore it might prove embarrassing to have a large outstanding contract for books which had become practically obsolete. Whether a contract system for the purchase of text-books can be devised which will safeguard the

interests both of education and economy is a question which should be carefully studied by the School Committee. If such a system can be devised it should be adopted.

The quarters occupied by the supply room are wholly inadequate and are not creditable to the city. Members of the commission have visited them and have been astonished at the effective work done by the auditor and his subordinates under such unfavorable and discouraging conditions.

2. *Business Agent.*

This office was established in 1906, as already described. The work to be done had grown enormously since the office of auditing clerk was established in 1876, and a division on that account alone was necessary, aside from the doubtful policy of combining the duties of purchasing and auditing in one person.

Under the rules the business agent is required to keep a complete set of books, giving a full account of the receipts and expenditures of the School Committee; submit monthly statements and an annual report to the School Committee; prepare pay rolls, examine and certify to the correctness of expenditures and prepare monthly requisitions on the City Auditor; make out bills for tuition of nonresident pupils and send the same to the City Collector; and generally to keep a careful oversight of all expenditures and call the attention of the School Committee to any expense which may seem to him unnecessary, wasteful or in excess of proper requirements. Before final action is taken upon any changes in the school system involving additional expense, his report must be received. He is under bonds in the sum of \$10,000.

The School Committee has been fortunate in securing for this position a graduate of the Institute of Technology and a man of large intelligence. He has taken an active part in the attempt to improve the form of school reports in the different cities of the country,

in order that unit cost comparisons may be made of the different school systems, now practically impossible because of the variety of methods in making up reports. He is one of a committee appointed by the National Association of School Accounting Officers to draft a plan of standard school reports.

An examination of the annual reports of the business agent will show how valuable his work has been, particularly in the analysis of the cost of the different school activities. The Finance Commission has had the books and the business methods of the office examined by a competent accountant, whose report is most favorable.

3. *Board of Apportionment.*

No absolute line can be drawn between the business and educational side of school work. Every educational plan involves the expenditure of money and there should be some tribunal to consider both the educational and financial sides and decide between conflicting educational interests as to which at the time is the more needed. For this purpose there has been established a Board of Apportionment, consisting of the Board of Superintendents, the business agent and the auditor, with the secretary of the School Committee as its secretary. This Board meets once a month, prepares a detailed list of expenditures for supplies and incidentals to be furnished during the financial year, within the limits of the appropriation; studies the matter of the proper distribution of supplies among the different schools, and acts generally as an advisory board in financial matters. In passing upon the various subjects the Board of Superintendents has two votes and the auditor and business agent each one vote, thus keeping an even balance between the educational and business departments.

4. *Schoolhouse Custodian.*

Counting all buildings, large and small, on January 31, 1911, there were 236 permanent school buildings, beside 111 portable buildings and headquarters in twenty-nine

buildings, located in all parts of the city from East Boston and Charlestown to the extreme parts of Brighton, West Roxbury and Dorchester. It is of course impossible for the members of the School Committee to have a personal oversight of these buildings and of the janitors in charge. To meet this need the office of schoolhouse custodian was established in 1902. He is the executive officer of the School Committee in all matters relating to the care and custody of land and buildings used for school purposes, except the Mason street building, which is the central school administration building. He exercises general supervision and control (except in the Mason street building) over the janitors, engineers, their assistants and the matrons, and, subject to the approval of the School Committee, he makes appointments, transfers, suspensions and removals. He visits and inspects the school buildings, advises and instructs employees and sees that the rules and regulations for their government are strictly enforced, reporting cases of negligence or inefficiency. He countersigns requisitions for fuel and janitors' supplies and verifies the janitors' pay rolls. He keeps watch on the consumption of coal, gas and electricity, comparing the consumption of each year with that of previous years, to prevent waste. The appointment is made from the civil service list, after competitive examination.

A few months ago an automobile costing \$1,000 was purchased for the use of the custodian in visiting schools. No chauffeur is employed, the machine being run by the custodian. This purchase has been criticised, but the Finance Commission believes the expenditure entirely justifiable, as it will enable the custodian to visit the schools more frequently and to use his time to better advantage.

5. *Schoolhouse Service.*

With the advent of the new buildings a great change has taken place in what is still called the "janitor service," but which could more properly be called "schoolhouse service," since the work has increased enormously,

and now requires engineers, matrons and a large number of subordinate employees.

Not only has the work increased, but a higher type of employee has become necessary, because of the elaborate and complicated systems of heating and ventilation and the consequent increased responsibility. Any workman of average intelligence could take care of the old-fashioned furnace or stove; it requires a trained engineer to care for the present school plants.

Janitors and engineers by law are appointed from the civil service. In 1902 a system of promotion for merit was established by the School Committee. A record is kept of each janitor, based upon percentage marks made by the schoolhouse custodian on a carefully weighted scale, which takes into consideration different classes of service, estimate of character and length of service. The masters of the schools also give general ratings of "excellent," "good," "passable," or "unsatisfactory," which are taken into consideration when promotions are made. As a result the schools are cared for with few, if any, exceptions by an efficient, faithful corps of high character. While the cost is large the city gets a full return.

6. *Trial Board for Janitors.*

To secure a careful investigation of complaints made against janitors there was established last year a Trial Board, consisting of the secretary of the School Committee, the business agent, and a school janitor elected by his associates, whose duties are to hear charges preferred against any janitor, engineer or matron, and to report their findings and recommendations to the School Committee. This does not involve any extra expense, for the members serve without pay.

SECTION 4. THE SECRETARY OF THE SCHOOL COMMITTEE.

The office of secretary is often merely clerical, but this is not true of the secretary of the Boston School Committee. Elected to the position in 1896, the present

secretary has for fifteen years been a devoted, intelligent and accurate student of school affairs, and has accumulated in his office a vast amount of useful information.

He is secretary not only of the School Committee but of the corporation, the Board of Superintendents, the Board of Apportionment, the Board of Trustees of the Permanent School Pension Fund and the Board having charge of the sale of school property. He is also a member of the Janitors' Trial Board, already described. He is custodian of the Mason street building. His duties are of the most varied character, on both the educational and business side of school work, and require a man not only of ability but of large knowledge, sound judgment and consummate tact.

The Clerical Force at School Headquarters.

Unfavorable comment has been made upon an alleged large clerical force at the school headquarters on Mason street, and this sometimes results in an unjust reflection upon the secretary's office. For example, the statement was made by a master of a school who has a high reputation for fairness and accuracy that "the secretary's office has increased the clerical force tremendously." This view is held by many.

The facts are these: In 1898 the secretary had in his office one messenger, four assistants and one-half of the time of a fifth assistant; in 1905 he had five assistants and half the time of another; in 1907, and since, he has had five assistants; and during the whole time one messenger. Although the work during the period has very largely increased, the number of assistants has thus remained practically the same, a somewhat remarkable and creditable instance in municipal management. In addition to those already mentioned there are two assistants nominally attached to the office of the secretary in his capacity as secretary of the Board of Superintendents; one of them appointed last December, whose duty is to render clerical aid to the assistant superintendents. In the summer, or when not otherwise

occupied, both help in the regular office work. There is also a telephone switch board operator who is nominally attached to the secretary's office but whose duties relate to all the administrative departments. It is only fair to the secretary that the misstatement as to the "tremendous increase" of his clerical force should be corrected.

In view of this and similar criticisms a study has been made of the force at Mason street, in connection with all the officials, including the superintendent, Board of Superintendents, directors of various special departments, business agent, auditor, supply department and schoolhouse custodian. The nature and extent of the work assigned to each employee has been carefully examined.

Connected with the superintendent's office there is a secretary (formerly chief clerk) and nominally nine assistants, with half the time of a tenth assistant. This seems a large number, but only four give full time to the superintendent's work; two are in a separate office working on newsboy licenses and age and schooling certificates required by law; one is specially assigned to the director of school hygiene; one gives half-time to the supervisor of substitutes and half-time to the superintendent; one divides her time between the director of kindergartens, the supervisor of household science and arts, the director of music and the superintendent; and one gives half-time to the director of drawing and half-time to the business agent. There is also a special inspector of school certificates.

In the business agent's office there are eight assistants and a ninth on half-time.*

In the auditor's office, which includes the supply department, there are twelve employees, including those who handle and distribute the supplies, which involves much detail work, under very difficult circumstances.

In the office of the schoolhouse custodian there is one assistant.

*One additional clerk appointed since Sept. 1, 1911.

As a result of its investigation the Finance Commission is satisfied that the necessary school work is done with as few employees as is consistent with its proper performance. The commission has been particularly impressed with the economical system of dividing labor on half-time between different offices or interests. This is contrary to the usual municipal practice and shows that places are not manufactured simply for the purpose of providing jobs. The report of the examiners for the commission states: "In our inquiry we found the clerks to be uniformly interested and conscientious, doing their work intelligently and in many cases working overtime."

The nature of school work makes overtime necessary, and this occurs constantly in all the offices, but no extra payment is made. In his annual report for the current year the business agent says:

"It has only been by working the entire force many hours overtime during the last three years that it has been possible to handle the work of the office and at the same time put into effect the substantial changes in the accounting system necessary to adapt it to our needs."

The employees are all taken from the civil service lists.

SECTION 5. MINORS' LICENSES.

For many years licenses to minors to work as bootblacks or sell or expose for sale newspapers, fruits and other articles, were issued by the City Hall authorities, and the School Committee had no power of any kind in the matter. In 1898 an inquiry was made and it was found (School Document No. 13 of 1898, page 7) that of the 1,489 holders of minors' licenses, 967 were under fourteen years of age and 212 under ten years of age. There were 945 bootblacks and newsboys selling without a license. Very slight attempts were made by anybody to enforce the terms of the licenses issued. It was a poor way to teach respect for law when the city charged with the children's education allowed many of them to violate without hindrance its own law regulating these occupations.

In 1902 (Acts of 1902, ch. 531) the power to license minors under fourteen years of age was transferred to the School Committee, with great advantage to the children and to the schools. In 1908 one of the truant officers was made supervisor of licensed minors, and a careful oversight of the licenses has since been kept.

Licenses to minors of fourteen years of age and over are still issued from City Hall, and this divided jurisdiction is unfortunate. The School Committee ought to have power at least over all minors who attend school, whatever their age.

SECTION 6. NEWSBOYS' TRIAL BOARD.

To obtain the active co-operation of the newsboys themselves in enforcing the rules as to licenses, a Newsboys' Trial Board was established last year, consisting of five members, two adults to be appointed annually by the School Committee, and three to be elected annually by the licensed newsboys from the number of newsboy captains. These captains are elected annually in each school or district having in attendance ten or more licensed newsboys, and it is their duty within their school or district to watch carefully the conduct of licensed newsboys and to report all violations of the terms of a license. The Trial Board has jurisdiction over all newsboys attending the Boston public schools, and it is its duty to investigate, and make findings and recommendations to the School Committee. The adult members serve gratuitously, but the newsboy judges and the clerk are paid 50 cents for their attendance at each of the official sessions of the Board.

This is a somewhat novel experiment from which much good is expected. It has the tentative approval and co-operation of the judge of the Juvenile Court, who frequently suspends cases brought before him and, after referring them to the Trial Board, accepts its findings. The machinery has not yet been fully perfected, some friction has developed, and it may be said to be still in its experimental stage.

CHAPTER III. SCHOOL BUILDINGS.

The problem of the proper housing of the school population, involving lighting, heating, ventilation, sanitation and protection against fire in both old and new buildings, has had special attention during this period (1898-1911).

SECTION 1. OLD BUILDINGS.

For many years there had been well-founded complaints of the unsanitary condition and the lack of protection against fire in the older buildings. Both state and city Boards of Health had called repeated attention to the pressing needs on the sanitary side, and the inspector of buildings had urged that appropriations should be made for additional means of egress and fireproofing. The funds provided by the City Council (\$300,000 in 1896 and \$100,000 in 1897) were insufficient to make the necessary changes and in a large number of schools the children were left unprotected. After the right to make its own appropriations was vested in the School Committee both these matters were taken up seriously, and in 1900 elaborate reports were made to the School Committee at its request by the Board of Health (School Document No. 6 of 1900) and the Fire Commissioner (School Document No. 16 of 1900), showing a startling state of affairs in these respects.

1. *Sanitaries.*

In a number of the schools it was found that the pipes which supplied fresh heated air to the class rooms were located in the same room with the water-closets and urinals and in some cases directly over them; in a number of instances the joints and slides were not tight, and thus the foul air was transmitted to the class rooms. In many of the schools the sanitaries were primitive and in an offensive condition. A large number of the teachers' water-closets were "long hopper or pan closets," in dark and unventilated rooms. Many sanitaries were

located in the yards, separated from the main buildings, and were not heated in winter; in going to and from them and in their use the health of pupils and teachers was endangered.

2. *Fire Protection.*

Many of the large schools occupied by many hundred children were also without fire escapes. Some of the so-called "escapes" were mere traps, pronounced by the district chiefs to be "entirely unfit for the use of children." They were described as "of the folding kind, *locked on the bottom*, which have to be unlocked before they can be let down, and it will take five or six minutes at least before they can be let down, and the children between the ages of five and twelve would not be able to come down on them." In some cases the children would have to climb on sills, which the average child could not do, to reach these "escapes." One district chief made this comment as to a large school in the most thickly populated and dangerous part of the city: "This escape in my opinion is useless, as I do not think either teachers or children could use it."

3. *Remedies.*

Large sums of money have since been spent to remedy these conditions. It is difficult for one unfamiliar with the situation a dozen years ago to realize the radical changes that have taken place. The sanitary conditions are in the main satisfactory, and as to fire protection the Schoolhouse Commissioners, in their report for 1909-10, say: "Taken as a whole the great majority of school buildings are in a safe condition, and there are none where the conditions endanger the children."

Most fires start in the basement; and accordingly in almost all the buildings the basements have been made fireproof. In their report for 1910-11 the commissioners say: "It will be the policy of the Board to continue this work by doing as much as they can with the funds at their disposal." It is needless to say that there ought

to be no question of funds in such a matter, and complete protection in all schools should be provided at once.

In 1907 a careful study was made by the Schoolhouse Department of the system of fire-alarm and fire-drill signals, and new and improved devices have been installed in 162 buildings, which are practically all of the old buildings containing five rooms or over. Eighteen new buildings of first-class construction still remain to be equipped. There are also thirty-two old buildings which have not yet been provided with auxiliary connection to the Fire Department, although they are equipped with the interior system. The department now has on hand nearly enough apparatus to complete the installation of the new system in the eighteen buildings above referred to. The excuse offered for delay was "lack of funds."

SECTION 2. NEW BUILDINGS.

1. *Changes in Jurisdiction.*

The evils of a divided jurisdiction between the School Committee and the City Council were early felt in the matter of the erection of new school buildings. The School Committee could only recommend that schoolhouses be erected and improved; the power to act lay with the City Council. (Acts of 1875, ch. 242, sec. 6.) In consequence the constantly growing needs of the school population were neglected and the situation became critical. Public opinion finally was aroused, and by successive legislative acts (1889, ch. 297; 1890, ch. 355; 1895, ch. 408; 1897, ch. 442; 1898, ch. 149 and ch. 400; 1899, ch. 362; 1901, ch. 448) all power over school matters, including new buildings and appropriations therefor, was transferred from the City Council to the School Committee, subject only to the approval or veto of the Mayor.

In 1901 (Acts of 1901, ch. 473) the Schoolhouse Department was established and the duty of selecting land for school purposes and building, furnishing and

repairing school buildings was transferred from the School Committee to the new department.

2. *Waste.*

There can be little doubt that prior to the establishment of the Schoolhouse Department in 1901 there was enormous waste of money in the purchase of land and the construction and furnishing of buildings under the School Committee, a body in no way fitted to deal with such problems. That there was also waste and undue cost, although not to the same extent, under the Schoolhouse Department has been shown in the report on that department by the first Finance Commission. (Vol. 1, p. 368.)

A part of this waste was due to the political conditions under which the work was done. The rights of the children were forgotten and the mischievous belief (widespread in municipal affairs) that the city must expect to pay more than anybody else was acquiesced in. A part, however, was due to inexperience and a lack of knowledge on the part of those in charge, and much experimental work proved costly. Fortunately this experimental stage has now passed by; under the skillful guidance of an accomplished architect, for many years chairman of the Schoolhouse Commission, there has been developed a scientific system upon which our newer school buildings have been erected. There has been criticism of such buildings, however, on the ground that they were of too expensive a type and that simpler and less costly buildings would have answered the requirements and made possible the erection of more buildings for the same money. Other municipalities erect school buildings at less cost which answer every practical purpose. In the opinion of the Finance Commission no effort should be made hereafter to erect monumental buildings for schools, but the aim should be to provide plain and substantial structures at moderate cost.

3. *Changes in the Personnel of the Schoolhouse Commission.*

The chairman who had done so much for the schools resigned suddenly in June, 1910; the term of office of one of the other two members of the Board had expired in May of the same year, and subsequently the third member resigned. Thus in a short time the entire personnel of the Board was changed at the busiest and most critical period of the year. The Finance Commission has recognized the difficulties of the situation, and has watched with interest the work of the department under the new management, making suggestions from time to time which have been received by the Board in a friendly spirit. It is not prepared at this time to make further comment upon this branch of the school work except to say that it is glad to note the effort of the Board to lower the cost of schoolhouses by adopting a reasonable and entirely safe modification of so-called "first-class construction." The use of the words "first class" and "second class" in this connection is entirely misleading; the expressions are purely technical; there need be nothing inferior or dangerous in "second class" work, and in proper localities it should be used. The shifting of the school population from one part of the city to another and the inevitable reduction of the size of classes, and consequently of class rooms, make it undesirable to erect a needlessly permanent class of school buildings.

4. *List of New Buildings.*

From January, 1898, to February, 1911, there have been completed the following new school buildings:

<i>1898.</i>	
Brewster Annex	2 class rooms.
Frothingham Annex	2 class rooms.
Glenway Annex	2 class rooms.
Noble Annex	2 class rooms.
Paul Revere	18 class rooms.

<i>1899.</i>	
Benjamin Dean	8 class rooms.
Bowditch (addition)	2 class rooms.
Francis Parkman	4 class rooms.
Henry Vane	4 class rooms.

1900.

Adams and Chestnut Streets	2 class rooms.
Phillips Brooks	15 class rooms and hall.
W. L. P. Boardman	8 class rooms.

1901.

Bigelow	19 class rooms and hall.
Chapman	17 class rooms, hall, manual training and cooking room.
Copley	8 class rooms.
Dorchester High	15 class rooms, hall, gymnasium, 4 recitation rooms, typewriting room, library, botanical, zoological, physical and chemical laboratories.
East Boston High	11 class rooms, 4 study rooms, office, drill hall, assembly hall, reception room, physical and chemical laboratories, drawing room, library, 3 teachers' rooms, master's room, biological laboratory, 2 bookkeeping rooms, short-hand room, typewriting room, book room, manual training room, lunch room, locker rooms.
Ira Allen	6 class rooms.
Lewis Annex	1 manual training room.
Roger Wolcott	15 class rooms, hall, manual training room, cooking room.
Winship	12 class rooms, manual training room, cooking room.
South Boston High	17 class rooms, 2 recitation rooms, drawing room, chemical and physical laboratories, botanical laboratory, handicraft room, library, reception room, teachers' room, 2 halls.
West Roxbury High Addition	10 class rooms (2 large size), 8 recitation rooms, lecture room, physical laboratory, chemical laboratory, work room, assembly hall, principal's room, 2 apparatus rooms, lunch room.

1902.

Savin Hill Addition	2 class rooms.
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1903.

Hancock Annex	2 class rooms.
Marshall	15 class rooms.
William E. Russell	18 class rooms, cooking room, manual training room, hall.

1904.

Christopher Columbus	22 class rooms, 2 manual training rooms.
Ellis Mendell	12 class rooms.
Farragut	12 class rooms, cooking room, manual training room.
Jefferson	19 class rooms, cooking room, manual training room, hall.
John Boyle O'Reilly	13 class rooms, manual training room.
Oliver Hazard Perry	14 class rooms, manual training room, cooking room, hall.
Paul Jones	12 class rooms, cooking room, manual training room.
Washington	30 class rooms, manual training room, cooking room, hall (or playroom), gymnasium, roof playroom.
Francis Parkman Addition	4 class rooms.

1905.

Dearborn	21 class rooms, manual training room, cooking room, hall.
James Otis	12 class rooms.
John G. Whittier	10 class rooms.
Joseph Tuckerman	10 class rooms.

Mather	30 class rooms, cooking room, manual training room, hall.
Oliver Wendell Holmes	24 class rooms, cooking room, manual training room and hall (now has 2 manual training rooms).
Samuel W. Mason	14 class rooms.
*Sarah J. Baker.	24 class rooms.
Thomas Gardner	14 class rooms, hall, manual training room, cooking room.

1906.

Nathaniel Hawthorne	9 class rooms.
William E. Endicott	10 class rooms.

1907.

Hobart Street Addition	2 class rooms.
Winchell School Addition	6 class rooms.
Quincy Manual Training	4 rooms.
Normal Group.	

Normal School Handicraft rooms, teachers' work room, lecture room, 2 drawing rooms with work room, music room, psychology room, principal's room, reception room, rooms for men and women teachers', teachers' lunch room, library, history room, 2 rooms for English with work room, large and small room for geography with work room, 2 rooms for mathematics with work room, 2 rooms for instruction in kindergarten work, study hall, hospital room, 2 laboratories for physiology with work room, rooms for household science, containing kitchen, pantry, dining room, bed room; chemical laboratory and work room, physical, zoological and biological laboratories with work rooms between the last two.

Girls' Latin School Assembly hall, master's room, 2 teachers' rooms, 18 class rooms, 6 recitation rooms, library, lecture room, laboratory for physics, laboratory for botany.

*Model School (Patrick A. Collins, now used by High School of Commerce). Manual training room, cooking room, 16 class rooms, 2 kindergarten rooms, assembly hall.

Common Building Wardrobes, toilets, lunch rooms, dressing rooms, bath rooms and lockers, 2 gymnasiums, rooms for directors of physical training, small galleries for spectators in gymnasiums.

Charlestown High Gymnasium with dressing rooms, baths, lockers and drying room, wardrobes, lunch room, household science room, handicraft room, 9 class rooms, 4 recitation rooms, principal's room, 2 teachers' rooms, assembly hall, library, chemical and physical laboratories, lecture room, botanical and zoological laboratories, drawing room.

1908.

Francis Parkman Addition 6 class rooms, manual training, cooking room, hall.

Mechanic Arts High Addition 26 class rooms, 1 forge room, 3 locker rooms, 1 lunch room, chemical and physical laboratories, library, drawing room, assembly hall, science lecture room.

Eliot Administration Building Offices.

1909.

John Cheverus 16 class rooms, manual training room, cooking room, hall.

Edward Everett 14 class rooms, manual training room, cooking room, hall.

Longfellow Addition 8 class rooms.

Nathan Hale 12 class rooms.

* Certain changes have been made in the Patrick A. Collins School and the Sarah J. Baker School, to fit the buildings for the use of the High School of Commerce and the High School of Practical Arts.

1910.

Dorchester High Addition . . .	18 class rooms, handicraft rooms, including wood working, metal working and drawing, and typewriting room.
Girls' High Addition . . .	8 class rooms, gymnasium, lunch room, shower and locker rooms.
Blackinton Addition . . .	9 class rooms.
Doane House . . .	5 class rooms.
Peter Faneuil . . .	17 class rooms, manual training room.
Samuel Adams . . .	14 class rooms, hall, cooking room, manual training room.
William Lloyd Garrison . . .	10 class rooms.

A mere list of names of buildings can convey no real impression of the increase of or contrast in school accommodations. Some idea may be had when it is stated that in this period \$12,718,049.40 have been spent for this purpose. A few schools will be referred to as illustrating the change of conditions.

(a.) Normal Group.

The beautiful and impressive Normal Group on Huntington avenue, occupied in 1907 and since by the Normal School, Girls' Latin School and High School of Commerce, is the most important and expensive addition to the school buildings. The land (113,181 square feet) and buildings cost \$971,180.81, and the accommodations are in marked contrast to those previously provided. The Normal School for years had occupied cramped and inadequate quarters on the top floor of the Rice School on Appleton street, and the Girls' Latin School had occupied a rented building on Boylston street. The High School of Commerce, being then newly established, was in temporary quarters in the old Winthrop Street Primary School. In the new group every essential is provided; besides ample class rooms, recitation rooms and laboratories there are gymnasias, dressing rooms, baths and lockers connected therewith, and lunch rooms and wardrobes.

(b.) High Schools.

In 1901 the new Dorchester, West Roxbury, East Boston and South Boston High Schools, and in 1907 the new Charlestown High School, were opened.

The contrast between the old and the new high schools is remarkable. In 1898, at the beginning of the period under discussion, the Dorchester High School occupied an old-fashioned building on Dorchester avenue, containing 8 rooms, with an average of 291 pupils for the year and with 11 teachers. In 1901 the school was transferred to a fine new building on Talbot avenue, containing 24 rooms, a hall and a gymnasium, with an average of 745 pupils for its first year and with 23 teachers. It was supposed that this building was large enough to meet the needs of the district for many years, but it proved inadequate, and in 1910 an annex of 21 rooms was added, making in all 45 rooms, a hall and a gymnasium, the average number of pupils this first year being 1,408 and the number of teachers 48.

In 1901 the South Boston High School was first established, the new building containing 26 rooms and 2 halls, the average number of pupils for the first year being 469 and the number of teachers 19. In the year ending June 30, 1911, the average number of pupils had increased to 678 and the number of teachers to 29.

In 1898 the building but then recently built for the Mechanic Arts High School contained 16 rooms and the average number of pupils for the year ending June 30, 1898, was 313, with 13 teachers. In 1908 an additional building was erected with 33 rooms, making a total of 49 rooms, and the average number of pupils attending has increased for the current year to 1,301, and the number of teachers to 45.

In all these buildings gymnasias or drill rooms, laboratories and scientific or mechanical apparatus have been provided according to their varied needs.

(c.) *Elementary Schools.*

Prior to 1898 no elementary school building, grammar or primary, contained more than 16 rooms and a hall, the standard buildings containing 16, 14, 12, 10 or 8 class rooms.

In 1898 the Paul Revere School on Prince street at the North End was opened as a primary school with 18 class rooms, and it is noted as the first school in Boston to contain bathing facilities for pupils. Two sets of school baths were installed, one for each sex, at opposite ends of the basement. On the girls' side there were ten individual compartments, each containing a seat and a spray. No individual accommodations were provided for the boys, the showers being grouped in a space about 10 by 15 feet, so that as many as twelve pupils might bathe at the same time. Bathing facilities have since been furnished in the Bigelow School, South Boston, the Copley School, Charlestown, and in some of the other new buildings.

In 1904 the Jefferson School on Heath street, Roxbury, was opened with 19 class rooms and a hall, the Christopher Columbus School on Tileston street with 24 rooms, and the Washington School on Norman street with 30 class rooms. With the beginning of the present school year the Abraham Lincoln School was opened with 40 class rooms, hall, manual training and cooking rooms.

In 1905 the new Dearborn School, Roxbury, was opened with 21 class rooms and a hall, the Sarah J. Baker School on Perrin street with 24 class rooms, and the new Mather School on Meeting House Hill with 30 class rooms and a hall. The old Dearborn School had 14 class rooms and a hall and the old Mather School had only 10 class rooms and a hall.

CHAPTER IV. THE SCHOOL CURRICULUM.

SECTION 1. GENERAL VIEW.

As a preliminary to a study of this branch of the subject, a statement of the school system as it has stood in the different representative years is given. The following table shows the number of schools and districts in each year:

	1897-98.	1905-06.	1910-11.
Normal School.....	1	1	1
Latin schools.....	2	2	2
High schools.....	9	10	12
Elementary school districts (including grammar, primary and kindergarten schools).....	57	64	65
School for Deaf (Horace Mann).....	1	1	1
School on Spectacle Island.....	1	1	1
Continuation schools.....			3
Industrial schools (day).....			2
Industrial schools (evening, formerly drawing).....	5	6	3
Evening high schools.....	4	5	5
Evening elementary schools.....	12	13	13

Each elementary school district contains several school buildings, so that the actual number of schools is very much larger than the figures would seem to show.

The Parental School, which is the county truant school, has never been in charge of the School Department, but it is conducted and the teachers appointed in accordance with the general rules and regulations of the School Committee, so far as applicable, and it is by law made "subject to the visitation and inspection of the School Committee of Boston."

SECTION 2. NORMAL SCHOOL.

A special report upon this school, which is the source of supply of most of the teachers in the schools, has been made by the commission and is annexed to this report as an appendix. The Legislature at its last session by resolve (Resolves of 1911, ch. 97) instructed the State Board of Education to consider the expediency of establishing in or near Boston a State Normal School for the training of elementary school teachers, or of accepting a transfer from the city to the Commonwealth of the Boston Normal School, or of making an agreement with the city whereby the state might pay for pupils there educated. The inquiry is now being made and a report will be submitted to the Legislature in anuary next.

SECTION 3. LATIN AND HIGH SCHOOLS.

All of the Latin and most of the high schools are cultural rather than vocational (in the modern meaning of that word) in their character; but all have practical courses which fit graduates for some phase of business life. The college courses in the Latin schools, the commercial courses in the English and Girls' High Schools, and since 1898 in all the mixed schools, have a vocational tendency, although subordinate to the cultural side. In June of the present year the School Committee voted to approve a plan outlined by the Board of Superintendents for the development of the vocational motive in high school work through lectures to be given by business men. An "intensified" commercial course for girls was established at the opening of the present school year in the Roxbury High School.

A report relating to the Mechanic Arts High School has already been made by the Finance Commission, which is annexed as an appendix to this report.

The High School of Commerce was established in 1906 to prepare boys for commercial life. There are two branches of work, the cultural and the industrial, the instruction in the first having a special bearing upon the second. The course for a diploma is four years, and there is a special course open to graduates of this and other secondary schools. During the school year visits are made to business houses for practical observation; and summer employment, through the co-operation of various merchants, is a feature. Traveling scholarships to Central and South America and Europe to observe trade conditions have been established by private contributions, and interesting reports of their trips have been made by the young men.

The High School of Practical Arts for girls was first suggested in 1897 in a carefully prepared report (Document No. 10 of 1897) of the superintendent and the Board of Supervisors, in which, in addition to various academic or cultural studies, it was proposed to give certain practical courses, the opinion being explicitly

expressed "that the proposed school, like the Mechanic Arts High School, should be independent of all other schools and should be fully organized and equipped within itself to do all the work required of it." It did not, however, actually take form until 1907, when it was established after a delay of ten years. Its course of study follows to a large extent the lines laid down in 1897, the industrial department having courses in dressmaking, millinery and household science. The full term is four years, two-thirds of the time being devoted to academic and one-third to industrial work.

Both the High School of Commerce and the High School of Practical Arts have a distinct vocational or practical side and each has attracted a large attendance and seems to be meeting a real need.

A summer high school has been opened in the Roxbury High School building for those children wishing to make up conditions and those preparing for college admission examinations and for admission to high schools.

During the "period" (1898-1911) and especially the "second subperiod" (1906-11) the high schools have been greatly strengthened, both on the administrative and educational sides. Heads of departments and high school councils have been established, and conferences of teachers have been held to secure uniformity of aim and greater effectiveness in teaching departmental subjects, also to consider problems of text-books, courses of instruction and kindred subjects not only within the schools but as between the different schools. A child going from one school to another, or from one class to another, need not lose time in the effort to adapt itself to an entirely new method, due to the whim of a new teacher. Freedom in teaching is accorded to each teacher, but along agreed lines laid down by the departmental conferences.

An elective system of studies was introduced into the high schools in 1901 and has been freely used, but it has been abused in some instances and has proved very costly.

Accordingly in 1906 there was a careful revision of the high school course of study, restricting, but without injuring, the freedom of electives, and establishing a standard of efficiency in certain subjects, such as English, a selected foreign language, mathematics, bookkeeping, history, science, physical training, hygiene and choral practice, as essential to obtaining a diploma. This has been amended and improved from time to time, especially in the preparatory courses for the Normal School. An equivalent of four years' attendance is also required for a diploma.

SECTION 4. ELEMENTARY SCHOOLS.

Some of the elementary schools are for boys alone, some for girls alone, but the large majority are mixed schools. In 1906 a petition was presented to the School Committee by 110 members of the teaching force in boys' schools, urging the abolition of separate schools, on the ground that separate schools make discipline more difficult and tend to increase corporal punishment; that they are unjust to the teachers, both as to discipline and the amount of work required. Nothing has been done, as the expense of the necessary alterations in the sanitary and other arrangements of the separate schools is practically prohibitive; but all new elementary schools built in Boston are for both boys and girls.

Elementary schools, according to the rules and regulations, comprise the following: kindergartens, the regular grades 1 to 8, inclusive, cookery, manual training and sewing classes. At the beginning of the period there was no such unity of organization, each class of school being in a certain sense an independent unit, with a resultant waste of energy through lack of efficient management.

The long struggle towards unification began in the days of Horace Mann, and the controversy between the "double headed" and "single headed" systems, as well as that between the primary schools and the grammar schools, is an interesting study in human nature.

The situation as to primary classes is well described

by the superintendent in his annual report for 1902, page 73, where he says the primary schools "had always been as independent of the grammar schools as the latter still are of the high schools. Not only this, but every primary school was independent of every other; and every primary teacher was independent of every other, even when there were two or more of them in the same building. Each teacher with her class was a school unto herself. Naturally enough the teachers who had been thus independent objected, in many cases, to coming under the authority of the grammar master."

Not until 1906 was the matter fully settled, and even now there are those who claim it was not settled right. In that year two important steps towards efficient school management were taken; the abolition of the distinction which had existed between primary and grammar schools and their merger as elementary schools, and the substitution of eight grades for nine.

For the purpose of a readjustment of the high schools to the new system of eight grades in the elementary schools, a committee of conference, known as the Committee on Betterments, was appointed, consisting of the superintendent, assistant superintendents, the high school principals and several high school and elementary school teachers, and this was followed by a general meeting of principals and teachers.

Suggestions have been made that the elementary schools have suffered from neglect because of the abnormal growth of the high schools. A study of the records and of the schools seems to disprove this. A very large part of the time and thought of the School Committee and the Board of Superintendents has been given to rearranging the courses of study in the elementary schools. Geography, spelling, arithmetic, penmanship, manual training, sewing, have each been carefully considered. Especial attention has been given to the so-called "three R's" to meet the criticism that they have been neglected. An elaborate revision of the courses of studies has been prepared with the assistance

Throughout the course an attempt is made to develop habits of study. Of the time assigned in the eighth grade, at least 240 minutes a week are under the rules allowed to each pupil for independent study, in which he is neither assisted by nor interrupted by the teacher. For example, 60 minutes a week in each of the following studies: Arithmetic, reading and literature, spoken or written English, history and geography. The minimum amount of time for independent study that is allowed is suggested in the following schedule:

Eighth grade, 240 minutes; seventh grade, 200 minutes; sixth grade, 150 minutes; fifth grade, 150 minutes; fourth grade, 150 minutes.

Certain subjects taught in the elementary schools are declared by critics to be mere "frills, fads and fancies," even sewing and cookery being condemned by some as a waste of time. The Finance Commission commends for thoughtful consideration the following extract from the report of the superintendent of schools for 1910:

"The elementary course also includes civics, geography, drawing, science, manual training, cookery, sewing and music. These subjects are not considered fundamental by many persons, and each at the time of its original introduction was opposed as a fad. These subjects have been included in the course of study because, in the minds of educators, training in how to think is an indispensable part of the life equipment of every pupil. The ability to meet new conditions, to form conclusions from new data and to adapt oneself to varying circumstances are essential requisites for success in our complicated modern life, and an education limited to habitual mental actions and immediately useful facts would fail to equip boys and girls for success in any but the lower levels. Modern conditions of living, especially in cities, have removed a large share of the opportunities outside of school to fill the life of the pupils with experiences of value on the judgment-forming side. The school has of necessity been compelled to make an effort to supply the deficiency. Subjects are but the tools with which to make a man,

and while the tools should be selected with care, the quality of the product will depend more upon the skill of the workman teacher and how he uses the tools than upon the tools themselves. The question is one of proportion and time — what subject to use each day and how much — and most discussions of separate subjects, whether complaints that they receive too little time or objections because they receive too much, miss the point at issue because they do not consider the whole problem as centering around and being unified by the child to be instructed.”

It seems to the Finance Commission that the following facts are worthy of consideration in passing upon this matter: The so-called “fads and fancies” have forced themselves upon the schools as a result of a public demand, and they have continued in the curriculum because of this demand. Sewing, for example, was taught as far back as 1818 and probably earlier, and in spite of the critics it has held its place. The first cooking schools at the city’s expense were opened in 1886, and the demand for their increase has been persistent. They had previously been supported at private expense, but succeeded only because they met an actual need. With the limited funds at the disposal of the School Committee, such costly subjects might continue for a few years while their special advocates were in power, but they could not survive for any length of time as against other pressing demands unless they possessed real value.

Experiments in industrial education have been carried on with varied success in the Hancock School at the North End, the Eliot School in the West End, the Agassiz School at Jamaica Plain, the Winthrop School on Tremont street, now merged in the Abraham Lincoln District; the Lyman School at East Boston, the Washington Allston School at Brighton, the Oliver Wendell Holmes School at Dorchester, the Quincy School at the South End and the Horace Mann School for the Deaf. An interesting and valuable account in detail of these

experiments is given in the report of the superintendent for the year 1910. (Document No. 10.)

SECTION 5. KINDERGARTENS.

Kindergarten schools are being somewhat curtailed at the present time, because of their cost. Last year the age limit of admission was raised from three and one-half to four years, and greater strictness has been demanded in proof of age before admission.

The forerunners of the kindergartens were the "infant schools," established more than one hundred years ago by private societies and individuals and vainly urged for adoption as a part of the public school system. In 1870 Boston had the honor of establishing experimentally what is believed to have been the first public free kindergarten in the world. (School Document No. 2 of 1888, page 18.) It was regarded as a success by the School Committee which was anxious to continue it and to enlarge the number of classes, but the City Council, which then controlled the purse, did not see the necessity, and in 1879 the school was closed for lack of appropriations. It was continued and others were added by private philanthropy, and in 1888 public opinion was so strongly in its favor that the kindergarten was again taken into the school system.

SECTION 6. SPECIAL SCHOOLS AND CLASSES.

(a.) *Horace Mann School.*

In 1869 the Horace Mann School was first opened with the oral system of instruction for the deaf which Horace Mann had observed in Germany and brought to public attention in this country twenty-five years previously. As was stated at its dedication, this was the first public day school ever opened to deaf children. The new experiment was to demonstrate that to the deaf as well as to others all the advantages of school education can be extended without separating them from their homes. The course of study is substantially

the same as that prescribed for the other elementary schools of Boston, the attempt being made to make as little difference as practicable, having regard to the circumstances and to the necessities of the situation. The school is one of which Boston is justly proud.

It was in this school that Helen Keller, born both deaf and blind, was taught to speak. An extremely interesting account of this great triumph is given by Miss Sarah Fuller, for many years the principal of the school, in an appendix to the superintendent's annual report for 1903. (School Document No. 3, pages 159-167.)

The state in 1885 (Acts of 1885, ch. 201) granted to the city the land on which the school stands on Newbury street, conditional upon the erection of a school thereon, but in 1905 (Acts of 1905, ch. 467) released this condition, provided that if sold the proceeds should be used for another site for the school. The present quarters are insufficient and a new building should be provided. In the effort to supply the needs of other interests this unfortunate class in the community ought not to be overlooked.

The pupils of this school are sent by the state from all parts thereof and are not confined to citizens of Boston. The state pays the larger part of the cost of the school.

(b.) *Spectacle Island School.*

The school on Spectacle Island is a local elementary school established on an island in the harbor to provide for the children of employees in an industry there conducted. There are about a dozen pupils and but one teacher.

(c.) *Special Classes.*

In each elementary district one or more ungraded classes is authorized in which the instruction is adapted to the conditions in the class and modified to suit these conditions. No pupil can be placed in such a class for misconduct unless expressly authorized by the assistant superintendent in charge, as the classes are in no sense

disciplinary. There are many reasons for their existence, as, for example, the presence in a district of immigrant children who are as yet unfamiliar with the English language and who need special assistance. As stated by the superintendent, "the purpose is to give special help to those pupils who need it and to return them as soon as possible to the regular grades."

A disciplinary class has been established experimentally, in which an attempt is made to take care of boys who might otherwise be sent to the Parental (or truant) School; and there are special classes for the mentally deficient, as hereinafter described.

SECTION 7. EVENING SCHOOLS.

One of the great troubles with which those conducting evening schools have had to deal is the fluctuation of the school population and the difficulty of holding the attention of pupils. A strong effort has been made to strengthen these schools and to make sure that the money expended is not wasted. Opportunity is afforded to those who care to avail themselves thereof to obtain not only a good education in the ordinary school subjects but also in commercial and industrial branches. Typewriting, bookkeeping, salesmanship, dressmaking, sewing, millinery, embroidery, domestic science, cookery, wood and iron working, are among the industrial subjects taught. To secure a steady and interested attendance, a new rule has been established for the coming year, under the authority of the Acts of 1911, chapter 309, under which each pupil in the evening high schools, who is not bound by law to attend, will be required to make an advance payment of \$1, which will be refunded at the end of the school year if the pupil has attended at least two-thirds of all sessions held during the year or three-fourths of those held after January 1.

All doubt as to whether or not these schools are doing good work and are meeting an actual demand from the people would be set at rest by a visit to the English High School building on Montgomery street on some

evening when the schools are in session. The whole building is alive with interested humanity. With the opening of the schools this year men only are to be admitted here, the women being transferred to a new school to be established in the Girls' High School building on West Newton street.

SECTION 8. INDEPENDENT INDUSTRIAL SCHOOLS.

The tendency at this time among certain educational authorities is strongly in favor of an extension of the so-called vocational or industrial as distinguished from the cultural side of education, and this has shown itself as already outlined in the day schools. There is great danger, however, of carrying this tendency to an excess, and of breaking down existing institutions which are doing good work, in an attempt to graft upon them or to substitute something new. The establishment of industrial schools by cities and towns was first authorized by the Legislature in 1872 (Acts of 1872, ch. 86) and many experiments therein have been since tried in Boston. In cities having twenty thousand or more inhabitants manual training was made compulsory by law in high schools in 1894 (Acts of 1894, ch. 471) and in elementary schools in 1898. (Acts of 1898, ch 496.) In 1906 a state commission, appointed to study and report upon the subject of industrial and technical education, reached the conclusion that "manual training as administered in the schools did not meet the needs of a distinctly industrial or vocational education." Legislation followed (Acts of 1906, ch. 505; Acts of 1909, ch. 457 and ch. 540), authorizing the establishment, subject to the approval of the State Board of Education, of so-called "independent industrial schools" by cities and towns as agents of the state. These industrial schools as defined and administered by the State Board of Education are likely to prove very costly, a fact which of itself is of course not a final adverse argument, but it is a factor that must be taken seriously into consideration. It is true that the state will pay one-half of the

cost, but Boston must repay one-third of this one-half in its share of the state taxes; and, as shown in the report of this commission on the Mechanic Arts High School, the increased cost of carrying on the school will bring as a final result an actual financial loss to the city. This loss is not to be counted against a real educational gain; but to what extent such a gain will result is the problem involved. Great caution should be exercised by the School Committee in its consideration.

At the present time there are two day independent industrial schools conducted by the city as agent for the state, one-half of the expense being borne by the state. These are the Pre-Apprentice School of Printing and Bookbinding and the Trade School for Girls.

The first of these was established in the Lyman District, East Boston; the bookbinding class, December 1, 1909, and the printing class, January 31, 1910. The course of study includes mathematics, English, industrial history, current events, spelling, drawing and practical printing and bookbinding. The material furnished for bookbinding work consists in part of old text-books from the schools.

The Trade School for Girls had been for several years conducted as a private school, and the pupils and teachers were transferred together to the public school system on September 15, 1909. The school is established for the purpose of giving a trade training to girls between the ages of fourteen and eighteen years who are obliged to become wage-earners. Pupils are admitted conditionally for one month and not allowed to continue if at the end of that time it appears that they are not adapted to the work. Four courses are given — dressmaking, millinery, straw machine operating and clothing machine operating, and with each course the pupil is required to study spelling, business forms, business English, textiles, color and design, cookery and physical exercise. Domestic science is taught in connection with the daily luncheon at the school. The care of the body, the necessity of proper food, sleep and exercise, correct standing and

sitting, the need of fresh air and the relation of personal hygiene to success in life are emphasized. The school more than pays for the materials used in its conduct, as the work is sold at shop prices, the aim being to make each girl appreciate that here, as in her future life, she must meet competitive conditions in the open market. There is a summer term, but, owing to lack of funds, the School Committee voted to omit the term in the summer of 1910, whereupon certain private individuals contributed enough to keep the school open. During the summer just passed it was kept open at the expense of the city. The demand for admission is very large and the school seems to be doing much good. A day Trade School for Boys is to be opened in the old Brimmer School building as soon as it can be made ready for occupancy.

There are three evening industrial schools, and these are practically the former evening drawing schools, which had done good work for many years but which have been somewhat changed to meet the requirements of the State Board of Education. These schools are maintained for the benefit of those over fourteen years of age who are employed during the day in some craft or trade and who are able to attend at least two evenings each week. Courses are arranged for architectural drawing, machine drawing, tool and jig making, ship draughting, freehand drawing, designing, steam engineering, sheet metal pattern draughting, building estimating, interior decorating, and preparation for the Lowell Institute School for Industrial Foremen. An evening Trade School for Girls will be opened in October of this year.

SECTION 9. CONTINUATION SCHOOLS.

These schools are established for working people who desire to add to their knowledge of business and to increase their industrial efficiency. Last year there were three courses, shoe and leather, dry goods and preparatory salesmanship. They are largely experimental in their nature, but merchants and others engaged in the

special industries believe that they may be of great value and are anxious for their continuance and enlargement. The great danger that lies before them is the failure to retain the interest of pupils; unless carefully watched and strengthened they may easily become purely perfunctory. The experiment, however, deserves a thorough trial.

SECTION 10. VOCATIONAL GUIDANCE.

The problem of a child's future as a member of the great army of employers and employees in active life is one with which the schools have heretofore only indirectly dealt. Interference in a subject which theoretically should be settled by parent and child is an extremely delicate matter, yet that there is need of help in this direction is a matter of common knowledge.

In May, 1909, the School Committee authorized the appointment by the superintendent of a Committee on Vocational Direction, composed of six members of the teaching force (consisting now of three masters and three submasters of elementary schools), and this committee has arranged for co-operation among and received assistance from various organizations interested in vocational work, furnished vocational lectures to graduating classes of certain of the elementary schools in the thickly settled portions of the city, and in some instances (although not as generally as it would like) has obtained employment for pupils, counseling and following them up after leaving school, and has tried various experiments along different vocational lines. In each high school and elementary school there have been appointed one or more vocational counselors. The counselors in the elementary schools, in case there are more applicants than can be accommodated in the special high schools, choose those for admission who, from their personal observation, they believe to be best adapted to succeed. A submaster in one of the elementary schools in December, 1910, was assigned the special duty to investigate

and report practical plans for the establishment of vocational guidance of pupils in the public schools.

In the Practical Arts High School and in the Trade School for Girls vocational assistants are appointed. These assistants study trade conditions, furnish information as to the same to parents and pupils, obtain positions for and keep watch of graduates.

All this is of course wholly experimental; it has its dangers as well as its advantages; no one can predict the outcome, but it is an honest effort to help and is worth the trial. The intention is not to take away the parental responsibility but to arouse the parents' interest, and to help wherever possible.

SECTION 11. EXTENDED USE OF SCHOOL BUILDINGS.

The assessed value last year of the Boston school buildings was \$13,997,200, and of the school land \$5,038,100, a total of \$19,035,300. For a large part of the year these buildings are unoccupied. For years the masters, teachers and janitors felt that they were the real owners of the school buildings, and any attempt to use them for anything but the narrowest interpretation of the words "school purposes" was resisted as an encroachment upon their prerogative.

Some masters were more liberal than others, and various independent experiments were tried, opening the schools in the evening for study purposes or for entertainments, the hope being to interest the neighboring community in the schools as centers of social as well as educational activity. This was the origin of the so-called "educational centers," which were established in 1902, had a vogue for a few years and were then merged in evening schools.

The appreciation both by the public and by the school authorities of the economic as well as educational value of a more extended use of the school buildings has led to their opening for a variety of purposes, such as even-

ing lectures and concerts, social, philanthropic, political and other gatherings. Alumni associations, local improvement associations, and many others have been granted authority to use them. There should be an even more extended use of the school buildings as soon as the necessary funds can be provided.

The basements have also been used quite freely as polling places at general elections, there being now eighty-four such places. Formerly this use of the school buildings was condemned as demoralizing to the children because of the scenes that sometimes occurred at elections; but the better theory has prevailed and has proved true in practice, that the presence of the children tends to prevent disorder and that, as the duty of voting is one for which the children are being prepared, they are helped by watching its practical operation.

SECTION 12. ADVISORY COMMITTEES.

The German system of advisory committees of business men in school matters was introduced in 1906 in connection with the new High School of Commerce, when the presidents of various business organizations were invited by the School Committee to formulate a plan to secure the co-operation of business men in the work of that high school. There are at present seven such advisory committees upon the following schools or subjects: High School of Commerce, Mechanic Arts High School, Trade School for Girls, school hygiene, further use of school buildings, Pre-Apprentice School of Printing and Bookbinding, and independent lighting plants in school buildings. Some of these committees have a large membership, which, while possessing certain theoretical advantages, has the practical disadvantage that very little work is done by some members and thus the control falls into the hands of a few enthusiasts. This evil has been felt and is likely to increase, but much help has been received notwithstanding this fact.

CHAPTER V. BOOKS AND SUPPLIES.

SECTION 1. BOOKS.

The law requiring the public schools to furnish free text-books and other school supplies (Acts of 1884, ch. 103) and another (Acts of 1885, ch. 161) authorizing the School Committee to procure at the city's expense such apparatus, books of reference and other means of illustration as it might deem necessary have proved of great benefit to the schools. In 1901 (Acts of 1901, ch. 472) the School Committee was authorized to allow "pupils completing two years in any public school in grades more advanced than the fourth . . . upon graduating from the grammar schools . . . to retain in permanent ownership such three text-books used during the last year of their attendance in the school as they may select," and to purchase other text-books at not more than the cost price. All text-books not thus taken are used by successive pupils until discontinued or worn out.

The purchase and distribution of books and supplies has been in very economical hands and complaint has been made frequently that the desire for economy has approached too closely to the line of parsimony. Books are rebound, sometimes more than once, and are retained in use until they are absolutely worn out.

Each year the Board of Superintendents prepares a list of authorized text, supplementary and reference books, embodying such changes in and additions to the list of the previous year as they deem necessary, and these changes and additions are then either approved or disapproved by the School Committee. During the year further changes may be made to meet the needs of the schools. The rules provide that "only such books shall be purchased for use in the schools as shall have been duly authorized by the Committee," but they are silent as to what shall be done with books already purchased which are subsequently removed from the authorized list.

The Finance Commission has had a study made of this subject and has found that at the time of its inquiry there were charged to the elementary schools more than 186,000 books which were not on the authorized list, some of them having been discontinued as far back as 1901. To the Normal, Latin and high schools over 29,600 and to the evening schools about 9,300 text-books were charged which were not on the authorized list. Of a total of about 825,000 books charged to the various schools, over 225,000, or about 27 per cent, were not on the authorized lists. Thus it appears that more than one-fourth of the books then in use in the schools had been pronounced by the Board of Superintendents and by the School Committee as unworthy a place on the authorized list, and while it is probable that many of them still had an educational value, yet it was clearly unfair to permit 27 per cent of the pupils to receive their education through inferior books while their more fortunate neighbors (73 per cent of the whole) had the benefit of more modern books. The average physical life of text-books, taken as a whole, is from seven to eight years; and many of these books had not been in use long enough to become completely worn out. But the continued use of obsolete educational tools is indefensible from any point of view except that of a false economy. This is now recognized by the school authorities, and efforts are being made to reduce the number of obsolete books and finally to do away with those now on hand.

Many books are worn out each year, others are destroyed because of danger from infection or contagion, and still others are lost. A large number of new books is required to take their place and meet new needs, and in the aggregate the changes are considerable.

The net increase in the total number of books in use in the schools and the very large increase of new books furnished during the last two years over previous years is shown from the following statements:

The net increase was as follows:

Entire period, 1898 to 1911 (annual average), 26,193 net increase.
 First subperiod, 1898 to 1905 (annual average), 26,009 net increase.
 Second subperiod, 1906 to 1911 (annual average), 26,489 net increase.
 One year, 1909-10, 48,518 net increase.
 One year, 1910-11, 42,739 net increase.

The number of new books furnished was as follows:

Entire period, 1898 to 1911 (annual average), 104,947 new books.
 First subperiod, 1898 to 1905 (annual average), 97,890 new books.
 Second subperiod, 1906 to 1911 (annual average), 116,238 new books.
 One year, 1909-10, 157,431 new books.
 One year, 1910-11, 143,318 new books.

The furnishing of more and better books was the reason for the increase in the item "cost of books" from \$42,572.85 in 1908-09 to \$71,513.18 in 1909-10 and \$65,121.14 in 1910-11. This item of expense must necessarily increase largely with the extension of this new and wise policy adopted by the School Committee.

There were charged to the various schools at the close of the last fiscal year (January, 1911) the following text-books:

Normal	4,818.
Latin and high	233,998
Elementary	601,500
Evening	27,102
	<hr/>
	867,418
	<hr/> <hr/>

At administration headquarters a careful inventory and account is kept of all text-books purchased, of those on hand at the supply department, those sent to the schools, those subsequently returned, those reported lost, those destroyed because of exposure to contagion or those exchanged for new books. Every text-book is accounted for from its first appearance to its final disappearance.

There is a different practice in regard to the relatively small number of books for supplementary reading, which are sent to the masters of the schools upon requisition, and, as they are regarded as in the nature

of a reference library and not to be returned, they are charged off and no further accounting at Mason street is required or kept.

SECTION 2. OTHER EDUCATIONAL SUPPLIES.

The item of "Supplies and Incidentals" in the school reports covers a great variety of miscellaneous needs and seems to be the universal pool into which all charges flow that cannot find a home elsewhere. Stationery, postage, blank paper, drawing materials, paper blocks, philosophical, scientific and other apparatus, globes, maps, charts, typewriters, pianos, manual training supplies, kindergarten supplies, physical training supplies (including military drill), playground supplies and apparatus, sewing and cooking materials and flags for schoolhouses are among the many things that must be furnished.

Complaints have been made that the interests of the various schools have not been cared for always with absolute equality and that certain schools have obtained more than their fair share of supplies. The many other demands for money led to a very close economy in supplies, particularly in the year 1908-09, when elementary school supplies were curtailed because of the demands due to the enormous growth of the high schools. In 1909-10 and 1910-11 attempts were made to remedy this situation by a substantial increase in the supplies for elementary schools, and last year the School Committee, upon recommendation of the Board of Apportionment, fixed the following per capita apportionment of supplies among the various classes of schools:

Normal School	\$6 00
Latin and high schools	4 15
Elementary schools	1 35
Kindergartens	55

In addition small sums were allowed certain schools and special appropriations were made for the Trade

School for Girls, the Pre-Apprentice School of Printing and Bookbinding and for evening schools, also for certain supplies enumerated as outside the apportionment.

This seeming discrimination in the schedule in favor of the secondary as against the elementary schools is due to the necessities of the situation. The more advanced education which the public demands requires more costly educational tools and if the demand is met the increased cost cannot be avoided. If experience shows that the amounts now allowed the different schools are not as fair as they should be the figures can be readjusted, but the plan of apportionment is a good one, as it tends to eliminate the basis of the charge of favoritism.

Requisitions for supplies are made in triplicate upon the auditor by the master of the school, through the business agent, and are subject to the approval of the assistant superintendent in charge of the particular school. They can be sent but once each month, on the fifteenth day thereof, and are then filled by the auditor from the supply room.

A stock book is kept in which there is an account of each article which goes into or out of the supply room. The correctness of the account is proven by the inventory which is taken in January of each year. A ledger is kept called the master's ledger in which is shown the text-books and other articles which go to the schools. It shows what each school should have on hand at the beginning of the school year in September and what is sent during the year, with credits for anything returned. These are all checked up at the end of the school year, and a new account is opened at the beginning of the new school year. No stock book or inventory, however, is required to be kept at the school, although some of the masters voluntarily keep an inventory. In its absence there is no check upon the disposition of the supplies received. This lack has been criticized, but it is probable that the clerical work involved in the

keeping at the schools of a minute account of the disposition of such articles as stationery, pencils and similar supplies would be quite as costly as any possible loss that might be incurred through the absence of an inventory and account of stock. The time of a highly paid official, such as the master or his assistant, ought not to be taken up with such details, but where clerical assistants are furnished, as has been done for high schools and is suggested for elementary schools, this, as well as keeping an account of the supplementary books, might well be made a part of their duties.

SECTION 3. COAL.

The addition of many new and costly buildings and the renovation of the old, introducing elaborate modern systems of heating, ventilation and sanitation, as well as various purely educational improvements, such as laboratories, involve a corresponding increase in the extent of the various functions connected with their maintenance. To these causes is due the large increase in the consumption of coal.

In the year ending January 31, 1898, there were 15,327 tons of coal furnished the schools, while in the year ending January 31, 1911, the amount was 28,064 tons, an increase of 12,737 tons, or about 83 per cent. The old Dorchester High School in 1897-98 required 63 tons, while the new Dorchester High School, with its annex, in 1910-11 required 497 tons. The West Roxbury High School received 72 tons in 1897-98 and 340 tons in 1910-11. The Mechanic Arts High School received 305 tons in 1897-98 and 828 tons in 1910-11.

There were similar large increases in the elementary schools. The new Mather School received last year 375 tons, as against 98 tons in the old building in 1897-98; the new Bigelow School 250 tons, as against 100 tons in the old building in 1897-98; the new Chapman School 215 tons, as against 99 tons in the old building in 1897-98. Of the elementary schools not in existence in 1898, the Washington School received last year 370 tons; the William E. Russell School 315 tons; the Oliver

Wendell Holmes School 270 tons; the Jefferson School 248 tons; the Roger Wolcott School 228 tons; and other schools in proportion. In 1897-98 many of the elementary buildings received 100 tons or less and a large proportion of them less than 150 tons. One only was charged with more than 200 tons, the Bowdoin School receiving in that year 264 tons. It is interesting to note that this school last year received only 180 tons, the reduction being due to a change in the character of the heating apparatus and also to the change from the use of anthracite to that of bituminous coal.

The substitution of bituminous for anthracite coal has been made wherever practicable and has resulted in a great saving in the amount of coal consumed. The schoolhouse custodian estimates that the annual saving in money value amounts to about \$30,000, and in this he is confirmed by an expert on coal employed by the Finance Commission.

Bituminous coal is not used throughout the department because all the plants are not equipped for it. Last year there were 9,516 tons of anthracite and 18,548 tons of bituminous coal supplied to the various school buildings.

SECTION 4. WATER.

In the early part of the "period" (1898-1911) the Water Department charged and collected from other departments, including the School Committee, the usual rates charged private parties for water. This system was discontinued in 1901 and no charge has since been made, thus relieving the schools of a substantial charge, estimated now at about \$20,000 annually. The tendency of such a charge is to prevent waste of water and there is no reason why a proper charge should not be made on a meter basis, even though such a charge should make it necessary to procure legislative authority for the larger school appropriation required.

SECTION 5. LIGHT AND POWER.

In the report of the Committee on Supplies for 1898 appears this significant statement: "Electric lighting in

the schools is only in its infancy, and when, as is probable, it is more generally introduced a large increase in the cost for this item may be expected." This prophecy has been fulfilled. The cost last year for electric lighting was \$22,314.35; for electric power, \$3,632.53, and for gas, \$5,463.83, a total of \$31,410.71; whereas in 1897-98 the total cost for gas and electricity was only \$8,694.51. The rate charged for electricity is beyond the control of the School Committee. Efforts to secure better rates have been made, but the decision of the electric light company in refusing a reduction has been sustained by the Gas and Electric Light Commissioners and there seems to be no remedy. Various suggestions for relief have been made, including the establishment by the city of its own electric plant. With the greater use of the school buildings in the late winter afternoons and at night, which is inevitable, and the consequent increase in the consumption of electricity, the cost must increase. The problem of providing cheaper light is a complicated and pressing one which is receiving the careful consideration of the School Committee.

CHAPTER VI. THE TEACHING FORCE.

SECTION 1. NEED OF GOOD TEACHERS.

That the municipal problem is largely a human one appears nowhere more plainly than in the point of view taken by a certain portion of the public as to the choice of teachers in the public schools. No one will deny as an abstract proposition that each child who attends the public schools is entitled to instruction from a competent teacher, and that a denial of this right works great harm not only to the child but to the community of which he is to form a part. To secure this right, however, a continuous struggle for many years has been necessary, and the period under consideration has been particularly distinguished for the advances that have been made towards securing better teachers.

SECTION 2. PRESENCE OF INFERIOR TEACHERS.

This subject is one of vital interest and there should be no hesitation in making clear the exact truth. Sympathy for a needy but incompetent teacher has too often worked immense harm to a great number of innocent and helpless children. The community does not realize how many inferior teachers have been in the service, nor the unfortunate consequences of their work. If it did, there would be less sympathy for the teacher and more for the child.

In 1897 the Superintendent of Schools made a careful examination of the then teaching force, and in his annual report (School Document No. 5 of 1897, page 53) gave a tabulated statement of the standing of the teachers based upon marks made at his request by the principals and supervisors. Out of 1,414 teachers marked, only 266 reached a standard of "excellent," 46 "not quite excellent," 335 were "better than good," 406 were "good," and more than one-fourth of the total were not even "good."

With about 350 teachers rated as not even "good," and with an average quota of about forty-four pupils to a teacher, it is evident that in each year about 15,000 pupils received an education inferior to that received by pupils whose teachers were more competent. In a period of ten years, which is the average term of service of a teacher, these inferior teachers were injuring the chances of success in life of about 150,000 pupils, thereby also throwing discredit upon the schools to which they belonged, and upon the "good" and "excellent" teachers who formed the balance of the teaching force.

In his annual report for 1898 (School Document No. 3 of 1898, page 12) the superintendent said:

"The examination of the facts which I am making this year leads me to the same conclusion. Justice to the superior teachers, justice indeed to the teaching profession generally, requires that the inferior teachers

be improved or removed; but there is a far stronger consideration to be urged in favor of the same conclusion, and that is justice to the children."

A strong effort to eliminate inferior teachers has since been made.

SECTION 3. NEW METHOD OF APPOINTMENT.

It was in this spirit, and with this aim, that a majority of the School Committee in 1898 changed the rules, and gave to the superintendent a large influence in the selection, appointment and promotion of teachers; and this at the time was noted as a remarkable instance of self-reform by a school committee.

There were two main reasons for the poor quality of so many teachers: (1) the ease with which young women could pass through the Normal School in its then weak condition, and the consequent large number of inexperienced graduates who claimed a right to a position solely on the ground of their need; (2) political and personal influence in securing appointments. Political "pull," a pretty face, or a sad story of want, had often as much to do with an appointment as ability to teach.

To overcome these influences there was at once established a partial civil service system based upon a merit list of that year's (1898) graduates of the Normal School, and the Normal School itself has since been materially strengthened. Thus, for the first time, the civil service idea was introduced in relation to the appointment of teachers in the Boston schools. Permanent appointments were made from this list and from similar lists prepared thereafter in each year, in accordance with civil service rules, the three candidates standing highest on the list at the time being the only ones considered. There were other candidates, however, who were not included in the new civil service system; they were subject to examination, but once on the list they were eligible for appointment, whether their

names were at the top or bottom of the list, and those at the bottom were frequently appointed in preference to those higher on the list. Temporary appointments were also excepted, and by a succession of these "temporary" appointments, shrewd candidates with influential friends received employment practically throughout the year, while those equally or more deserving remained idle. The reform was a feeble effort in the light of subsequent achievements, but it was a remarkable advance for those days.

SECTION 4. REACTIONS.

The new rules were good as far as they went, and in most instances were observed, to the marked advantage of the service; yet there was still opportunity for favoritism which was availed of by certain members of the Board; and the secret influence and often ruthlessly exercised power of the small subcommittees in charge of individual schools did much to destroy the value of the reform. The superintendent was sometimes coerced and his appointments rejected; and finally, in 1904, in a wave of reaction, he was defeated for re-election after a service of twenty-four years.

This reaction, however, was followed by a counter-wave of reform in 1906, under the influence of which the constitution of the School Committee was changed and five members were elected who believed that the schools were primarily for the children and that the best teachers to be had anywhere were none too good for Boston, and also believed that promotion and increase of salaries should not come automatically by mere lapse of time, but should depend upon efficiency and mental growth.

In this year (1906) the rules were revised and the appointment and promotion of teachers were placed upon a very much higher basis than ever before. Further changes have since been made from time to time for the purpose of improving the teaching force.

SECTION 5. EXAMINATION AND RATING OF CANDIDATES.

Except graduates of the Boston Normal School (who are separately provided for) all candidates, after passing a competitive examination, receive from the Board of Superintendents a rating based upon scholarship, as ascertained by the examination, and upon the amount, quality and character of previous teaching experience. Their names are then arranged in accordance with their marks in graded eligible lists, and appointments to permanent positions in the day school service, except those of principals and directors, are made in regular sequence from the highest three names on these lists. The requirements for high school teachers' certificates have been modified so as to secure teachers skilled in departmental work, and generally the requirements for all certificates have been strengthened.

The graduates of the Boston Normal School are arranged in similar lists from which appointments are similarly made, but, as on graduation the amount of their teaching experience is very limited and their original standing must necessarily be based almost solely on scholarship, they are regraded each year from reports made by the principals, directors and supervisor of substitutes, increased weight being given to success in teaching.

SECTION 6. BOSTON NORMAL SCHOOL PUPILS.

Practically two-thirds to four-fifths of the teachers appointed to positions in the elementary schools are graduates of the Boston Normal School. Particular attention has therefore been given to improving the product of that school, which with its splendid equipment has absolutely no excuse for any further failure in this respect. Great care is taken in admitting pupils, a combined plan of certification and examination having been established, the intention being to admit only pupils of a high grade of ability.

Better opportunities for observation work and practice teaching have been provided through the organization of the Martin School as a model school. This school is on Huntington avenue, very near the Normal Group, and a master in the Normal School was made at the same time principal of the Martin District, thus securing close co-ordination of the work in the two schools.*

In 1904 (Acts of 1904, ch. 212) the Legislature authorized the admission of men to the Normal School, thus giving an opportunity, hitherto closed to males, for an education as a teacher at the city's expense.

SECTION 7. PROMOTIONAL EXAMINATIONS.

Promotional examinations in May and December of each year have been established as a test of efficiency for teachers already in the service. Before being placed upon the third-year salary each teacher is required to pass a promotional examination, two opportunities being given, and if failure results in both instances the employment ceases at the beginning of the next school year. Another promotional examination is optional with the teacher in the sixth year, but if it is not taken the schedule increase of salary is withheld. Upon the recommendation of the principal and assistant superintendent, or of the assistant superintendent in charge of a school, the superintendent may before October 1 in any year require any teacher to take the promotional examination in May of the following year, and if this results in failure a second examination in the May following, and if this too results in failure the employment ceases.

The examination consists of three parts: (1) success in school during the preceding year; (2) professional study; and (3) academic study in some one line. Satisfactory completion of a course or courses of study authorized by and conducted under the direction of the

*The master in the Normal School has been relieved of his duties as principal of the Martin District, but he still has direction of the work of the Model School. (School Committee Minutes, April 3, 1911.)

Board of Superintendents may be accepted as a part of the examination relating to professional study. For the academic study there may be substituted such course or courses counting for a college degree as the Board of Superintendents may approve, or the satisfactory completion of a course or courses authorized by and conducted under the direction of the Board.

SECTION 8. OPPORTUNITIES FOR PROMOTION.

Not only is it desirable to secure good teachers, and require them to pass examinations from time to time for promotion, but opportunities for advancement must be held out to them. This is a difficult problem. There are comparatively few positions at the head of schools or districts, and as the tenure is for life there are few vacancies. Formerly when such vacancies occurred they were uniformly filled by men. The large corps of women teachers in the elementary schools saw that they had no hope for advancement beyond the position of master's assistant, with a maximum salary of \$1,308. In 1902 the School Committee adopted this resolution: "That in the opinion of this Board sex ought not to be a bar to promotion in the teaching force, and that in any appointment to a position as principal of a girls' school a woman, other things being equal, should be preferred."

There are now nine women at the head of schools or districts.

SECTION 9. SUPERVISION OF NEW TEACHERS.

One of the most important advances towards efficient teaching was made through the establishment in 1906 of the position of supervisor of substitutes. It is the duty of the supervisor to assign substitutes to vacancies both for long terms when teachers are out on sick or other leave, and for emergencies caused by temporary absences. For this latter purpose the supervisor attends at the central administration building on Mason street each morning, and assigns the substitutes who are present to the various schools where temporary vacancies

have occurred. The assignments are made from a special substitutes' list prepared by the superintendent. After the assignments have been finished for the day the supervisor and her assistant pay visits to the substitutes at their work in the schools, advising with and helping them to use better methods of teaching and discipline. Visits of inspection are first made to see the kind of work done, and to note the special needs of the young teachers; other visits are made later to see what improvement, if any, has been made under instruction, and what further help can be given. Actual school difficulties are considered as they arise and the teacher is assisted in solving them. Conferences are also had at the Mason street office.

In addition, the supervisor meets the seniors in the Normal School each week during the year before graduation, and discusses with them the practical difficulties of teaching, the subjects of discipline, program making, class records, class spirit, special types of children, including those of foreign birth, and the best way of working with them. Thus, each graduate is personally acquainted with the supervisor, and a friendly relation is established from the start. An enlargement of this department may prove to be the true solution of the problem of visitation. Similar visitation of the kindergarten teachers is made by the director of kindergartens, and the visitation of special teachers is made by the heads of the special departments.

SECTION 10. LEAVE OF ABSENCE ON HALF PAY.

To increase the opportunity for personal and professional improvement among teachers, a system of leave of absence on half pay for study and travel, or for rest, was established in 1906. A member of the supervising staff, or teacher, who has completed seven years of service in the Boston public schools (part of which may be in the Parental School) may be granted leave of absence for study and travel for a period not exceeding one year in any eight consecutive years, or if he has

completed twenty years of such service, a leave of absence for rest [*i. e.*, as distinguished from "study and travel"] of not exceeding one year in any twenty-one consecutive years. The teacher must file with the secretary of the School Committee an agreement in writing, binding the teacher to remain in the service of the School Committee for three years after the expiration of such leave of absence, or in case of resignation within said three years to refund to the School Committee such proportion of the amount paid him for the time included in the leave of absence as the unexpired portion of said three years may bear to the entire three years; but this provision does not apply to resignations at the request of the School Committee, nor if made on account of ill health with the consent of the School Committee.

SECTION 11. AGE LIMITS.

One of the changes in the rules which has excited the greatest discussion, and which at first met with the most adverse criticism, but the wisdom of which is being slowly acknowledged, was that made in 1908, providing that the employment of members of the supervising staff, or teachers, shall terminate on the thirty-first day of August next following their seventieth birthday. There were many popular teachers affected by this rule, and their friends resented the seeming reflection upon their capacity, charging the School Committee with cruelty in suddenly throwing such faithful public servants out of employment, particularly in the absence of a proper pension system. But this legislation was based upon excellent reasons, which are tersely set forth in the Annual School Report for 1908, page 37:

"It is not easy to say at what time an individual teacher becomes ineffective and a detriment to the school in which he or she is employed. In many cases the limitations caused by age and infirmity come on so gradually that the decrease in vigor and enthusiasm, in the grasp of details and in teaching power is realized only by comparison of periods considerably separated

from each other. If it were possible to deal with a large system employing nearly three thousand individuals in the same way as with a small group, it would perhaps be practicable to determine the point at which the superannuation of the individual takes place; but if this method be attempted in dealing with large numbers of persons, all or nearly all of whom would not unreasonably seek to establish their continued fitness for service, it would be impossible to avoid suspicion of favoritism, and endless difficulties would arise in deciding upon the merits of individual claims for special consideration because of valuable services rendered in the past. That the children in the public schools should be taught by vigorous and efficient teachers admits of no question."

The maximum age limit at which new teachers may enter the service was at the same time fixed at forty years, but this does not apply to those holding teachers' certificates issued prior to January 1, 1909, nor to the positions of principal of a school or district, director or supervisor of a special subject or department, instructor of military drill, medical inspector of special classes or supervising nurse.

SECTION 12. PENSIONS.

The subject of providing pensions for teachers as a means of strengthening the teaching force by the retirement of the superannuated, as well as an act of justice to faithful teachers, has long been under discussion. Its desirability was suggested in the annual school reports as far back as 1879, but nothing came of it. Certain teachers in 1889 organized the Boston Teachers' Mutual Benefit Association; and in 1900 an act was passed (Acts of 1900, ch. 237) providing for a Teachers' Retirement Fund. Neither of these had any resemblance to a pension system, and neither made adequate provision for retired teachers.

In 1906 a study of the question was made by the School Committee, and in 1908 (Acts of 1908, ch. 589) the Legislature authorized the committee to appropriate annually from the tax levy 5 cents upon each \$1,000

of taxable value to provide for the payment of a pension of "not exceeding \$180 a year" to members of the teaching or supervising staff who might be retired under the provisions of the act. The amount was so small, in comparison with pensions paid, for example, to policemen and firemen, that in 1910 a new act (Acts of 1910, ch. 617) was passed authorizing the payment of a minimum pension of \$312, and a maximum of \$600, to members of the teaching and supervising staff retired under the provisions thereof. The act also made provision for payment of \$180 a year to not less than 60 annuitants of the Boston Teachers' Retirement Fund, described in the act.

Under the foregoing provisions the School Committee has since paid to retired teachers, or into the permanent pension fund, the total amount of \$195,129.35.

CHAPTER VII. QUOTA OF PUPILS TO TEACHERS.

In the beginning of the period under consideration (1898-1911) there was allowed in the elementary schools (grammar and primary) one instructor for every 56 pupils registered; and authority was given to add a teacher where there was an excess, or remove one where there was a deficiency of 30 pupils. The practical working of this provision is shown by the following table which was published with the rules:

Scholars.	Teachers.	Scholars.	Teachers.
From 30 to 85	1	From 590 to 645	11
From 86 to 141	2	From 646 to 701	12
From 142 to 197	3	From 702 to 757	13
From 198 to 253	4	From 758 to 813	14
From 254 to 309	5	From 814 to 869	15
From 310 to 365	6	From 870 to 925	16
From 366 to 421	7	From 926 to 981	17
From 422 to 477	8	From 982 to 1,037	18
From 478 to 533	9	From 1,038 to 1,093	19
From 534 to 589	10	From 1,094 to 1,149	20

Thus, while the nominal size of a class was 56, some teachers might have in their charge as many as 85 children. Some relief was obtained in the upper grades through the presence of special teachers in sewing, manual training, etc., and in the lowest grade it was provided that in classes exceeding 56, but less than 86 pupils a special assistant teacher might be appointed at a small per diem compensation.

It is difficult to understand how good results could have been expected from even the best teachers, and still less from teachers who were not even "good," with classes of such huge proportions. Millions of dollars were being paid for magnificent new buildings and their maintenance while a "penny wise, pound foolish," policy of economy permitted this defect in a vital part of the educational system.

The impossibility of securing proper attention to individual pupils in such large classes was recognized in other branches of school work. Thus, in the Normal School the quota of teachers was one for every 25 pupils, a teacher to be added for an excess or removed for a deficiency of 20 pupils. In the high schools and the Boys' Latin the quota was 1 for 35*; in the Girls' Latin 1 for 30; and a teacher might be added for an excess or removed for a deficiency of 20 pupils. In the Mechanic Arts High School the quota was 1 for 24, with an addition for an excess or removal for a deficiency of 16. These quotas were independent of special teachers, of which there were many. In the kindergartens the quota was 1 for 25 with an instructor added for an excess or removed for a deficiency of 15. In the Horace Mann School for the Deaf a teacher was allowed for every ten pupils, with an addition for an excess of 5. In the evening high schools the quota was 1 for 25, with one additional for an excess of 20; and in the evening elementary schools 1 for 15, with one additional for an excess of 10; teachers being dismissed in case of a falling off in attendance. In the evening drawing schools the quota was 1 for 30, with an additional teacher for an excess of 16.

* Boys' Latin, first three years, 1 in 35; next three years, 1 in 30.

The lack of adequate appropriations by the City Council had been an absolute bar to reform in this injustice to the children; but shortly after the School Board obtained the authority to make its own appropriations it gave serious attention to the matter. A very small and insufficient reduction in the size of classes, however, was all that anyone dared even to consider. In his annual report for 1899 the superintendent said:

“The reduction of the quota from 56 to 50 pupils to a teacher in the primary schools was recommended by me some years ago, and I am ready to renew this recommendation as soon as the financial situation may warrant.”

In 1900 the Board of Superintendents made a special report (Document No. 3 of 1900, page 7) in response to an order of inquiry from the School Committee, discussing at length the size of classes and the evil arising therefrom, saying: “The only reason ever alleged for making the regulation number of pupils so high is the saving of money, but there is a limit beyond which to increase the size of classes is waste and not economy.” In accordance with the Board’s recommendation the rules were amended, making 50 pupils the standard number to a teacher in elementary schools, except in the first or lowest grade, where the standard was placed at 42. A teacher might be added for an excess or removed for a deficiency of 30 pupils.

In 1902 the provision authorizing the appointment of a special assistant teacher in classes exceeding 56 and less than 86, which before applied only to the lowest grade, was extended to all grades. In 1906 by a further change in the regulations provision was made for the appointment of special assistants in the first grade when the number of pupils exceeded 50 and in grades above the first when the number exceeded 60.

In 1907 the Board of Superintendents again made an elaborate and convincing report upon the size of classes, saying:

“Were the work of the schools to be confined to the

acquisition of a prescribed number of facts to be learned by rote by all the children, without regard to individual ability or aptitude, there need be no limit to the size of classes. But the time when such work was called education has passed. It is now thought to be the business of the schools to fit its instruction and training to the individual capacity and individual needs of children. It must find the child and learn to look at the work from his standpoint, that it may secure his interested and willing co-operation in his own education, so that his education shall be self-education through self-activity. It must try to do this for the mentally sluggish and the morally wayward, even for the defective and the vicious, as the aim of all teaching must be character. Such work can only be done by superior teachers, but even by superior teachers it cannot be done with children in masses. The Board of Superintendents recommends the gradual reduction on a sliding scale of the maximum number of pupils to a teacher in all elementary grades above the first, as follows:

“(1.) For the school year 1907, the quota of pupils to a teacher shall be 48.

“(2.) For the school year 1908, the quota of pupils to a teacher shall be 46.

“(3.) For the school year 1909, the quota of pupils to a teacher shall be 44.

“The Board of Superintendents welcomes this opportunity to again put itself on record in favor of removing conditions by which the best efforts of the most skillful and self-denying teachers are continually thwarted.”

This recommendation was adopted by the School Committee, and the introduction of smaller classes in the elementary schools is being gradually brought about, although there are still very many classes much larger than the quota, which is now 44 for grades above the first, 42 for the first grade, 35 for ungraded classes, 25 for kindergartens and 10 for the Horace Mann School for the Deaf.

In the Normal School there is no limit, the number

of teachers being such "as may be necessary to carry on the assigned work of the school in an efficient manner, as determined by the superintendent." In the Latin and high schools the quota is 35, with certain additional teachers specified in the rules as to each school.

In the evening schools the quota is 25 in high schools, 35 for each two teachers in elementary schools, and 20 in industrial schools, with certain additional teachers, interpreters and curators specified in the rules as to each school.

These changes have required a large increase in the number of teachers and a corresponding increase in the salary list, but the expense has more than paid for itself in its effect upon the schools. There would be a still further reduction of the size of classes if due regard were had to the interest of the children; and the necessary money ought to be provided.

CHAPTER VIII. THE CHILDREN.

SECTION 1. INDIVIDUALITY OF THE CHILD.

That the schools are established for the children and not the children for the schools is a trite saying, but it is often overlooked or forgotten in the discussions which constantly arise over the rights or claims of contractors, tradesmen, teachers, janitors, the clerical force and other necessary adjuncts to the school system.

Even when the children are considered, they are liable to be regarded as a group, continuously present in the schools, rather than as constantly changing individuals, each with his individual peculiarities and his individual right to an education. The loss caused to the schools by a poor teacher, a poor book or a poor system may be remedied by the later substitution of a better, but the wrong to the individual child who is thereby sent into the world with a defective education can never be righted.

The importance of recognizing and caring for the individuality of the child is by no means a modern idea; it has long been urged by the few, but only in comparatively

recent years has it been accepted by the many as a living issue. It has had great consideration by the school authorities during the "period" (1898-1911) and especially during the "second subperiod" (1906-11).

SECTION 2. THE SCHOOL POPULATION.

To ascertain the facts as to school attendance, the Finance Commission has prepared a table, hereto annexed as Table I., showing the fluctuations of the school population during the period under consideration. From this table is taken the following statement, showing the average annual number of pupils belonging to the schools in the three representative years:

SCHOOL.	1897-98.	1905-06.	1910-11.
Normal.....	279	321	224
Latin and High.....	4,812	7,299	12,121
Elementary.....	65,920	80,123	81,366
Kindergarten.....	3,926	5,536	5,133
Special schools (Horace Mann, etc.).....	133	163	425
Totals.....	75,070	93,442	99,269
Evening schools.....	5,955	10,950	10,335
Totals.....	81,025	104,392	109,604

From this it appears that during the "period" (1898-1911) the total increase of pupils belonging to day schools was 24,199, an annual average of 1,861; and to evening schools, 4,380, an annual average of 337; or to both day and evening schools, 28,579, an annual average of 2,198. In the "first subperiod" (1898-1905) the total increase in the day schools was 18,372, an annual average of 2,296; and in the evening schools, 4,995, an annual average of 624; or in both day and evening schools, 23,367, an annual average of 2,921. In the "second subperiod" (1906-11) the total increase in the day schools was 5,827, an annual average of 1,165; while in the evening schools there was a decrease of 615, an annual average of 123,

making the total increase of both day and evening schools only 5,212, an annual average of only 1,042.

In the last year there has been a decrease in the total school population, as shown below:

SCHOOL.	1909-10.	1910-11.	
Normal.....	219	224	5 Increase.
Latin and High.....	11,050	12,121	1,071 Increase.
Elementary.....	82,739	81,366	1,373 Decrease.
Kindergarten.....	5,694	5,133	561 Decrease.
Special schools.....	357	425	68 Increase.
Totals.....	100,059	99,269	790 Decrease.
Evening schools.....	10,126	10,335	209 Increase.
Totals.....	110,185	109,604	581 Decrease.

Conclusions must be drawn cautiously as to evening schools, as it is believed that the earlier figures are not absolutely reliable. One cause given for the apparent cessation in growth of these schools is the greater accuracy required to-day in reporting actual attendance and the stricter discipline maintained. A genuine desire to learn and a fairly regular attendance are now required for continuance of membership.

The decrease of membership in the elementary schools may be attributed in part at least to the change in the number of elementary grades from nine to eight, which first went into effect in 1907, and the force of which has not absolutely spent itself. Some of the pupils who would have been in the ninth elementary grade have dropped out; some have gone voluntarily, and some have been forced by the legal requirement as to school age into the high schools. Another cause may be the change in the rules by which children under the age of seven years may be refused admission to the first grade after October 31 in each year, the result being to raise the average minimum age of admission and thereby decrease the number of pupils. The decrease in the kindergarten schools was due to a change from three and one-half to four years in the minimum age at which children are admitted and to the stricter requirement of proof of age before admission. Other causes

for the decrease may be at work, and it would be a difficult and perhaps impossible task to determine just what they are. At all events the decrease of about $1\frac{2}{3}$ per cent in the number of elementary school pupils and of about $\frac{1}{2}$ of 1 per cent in the number of pupils in all schools furnishes no occasion for alarm; the falling off in all probability is only a temporary one, and in future years the normal increase of previous years may be expected.

One important fact stands out clearly, namely, that the Latin and high school population shows a steady and in recent years an almost phenomenal growth. In the entire period under consideration (1898-1911) the increase of pupils was 7,309, the annual average increase being 562. In the "first sub-period" of eight years (1898-1905) the increase was 2,487, the annual average increase being 311. In the "second subperiod" of five years (1906-11) the increase was 4,822, the annual average increase being 964. The increase of 4,822 in this "second subperiod" is slightly greater than the entire Latin and high school population in 1897-98, which was 4,812. The increase last year was 1,071; the year before, 1,325, and the year before, 1,704, a total in three years of 4,100.

The facts appear more clearly from the following statement showing the average number belonging for the years named in the several Latin and high schools:

SCHOOL.	1897-98.	1905-06.	1910-11.
Latin (boys)	609	593	756
Girls' Latin	336	388	656
Brighton High (mixed)	246	289	344
Charlestown High (mixed)	283	257	478
Dorchester High (mixed)	291	1,115	1,408
East Boston High (mixed)	211	411	545
English High (boys)	841	922	1,480
Girls' High	884	1,088	1,739
High School of Commerce (boys)	—	—	785
Mechanic Arts High (boys)	313	710	1,301
Practical Arts High (girls)	—	—	460
Roxbury High (mixed)*	555	610	856
South Boston High (mixed)	—	531	678
West Roxbury High (mixed)	243	385	635
	4,812	7,299	12,121

* This is to become exclusively a school for girls, no more boys to be admitted.

Prolonged attendance of children in the secondary schools means self-sacrifice on the part of many parents, and this would not long continue if such schools were not doing fairly good work, and meeting what self-denying parents regard as of real value for their children. This, in the opinion of the Finance Commission, is most convincing evidence that the high school "boom," so called, is not merely a manufactured sentiment.

That many children have attended and probably will attend the high schools as mere idlers, for the sake of the social pleasures, such as school societies, dancing, athletic games, etc., there can be little doubt; and the School Committee, recognizing these facts, has attempted to meet such conditions. In 1906 the rules were amended, providing that high school pupils who fail in a certain number of subjects and show a culpable want of effort to reach a satisfactory standard of work, shall be placed upon probation, and if they do not improve, shall be required to withdraw from the school.

In 1906 (Acts of 1906, ch. 251) school athletics were placed by the Legislature in charge of the School Committee, and in 1909 (Acts of 1909, ch. 120) the School Committee was given authority over secret organizations of pupils.

SECTION 3. HEALTH OF THE CHILDREN.

Most important of all the essentials for educational success is that each individual child should have sufficient health to enable it to receive the education offered. In Boston there is, under the Board of Health, a corps of school physicians, which, though containing many good men who have done and are doing efficient service, has been too largely dominated by political influence to accomplish the best work. In 1906 (Acts of 1906, ch. 502) the Legislature passed an act requiring the appointment of school physicians by school committees, but only where the Board of Health had not done so; consequently the Boston School Committee has not been able to take the matter of appointments

into its own hands, but has had to do the best it could with the appointees of the Boston Board of Health. It has had studies made of different phases of the health problem; various commissions of physicians and others have been appointed from time to time, and have made valuable reports upon the subject of health of the school children, and upon these it has acted so far as it could.

A special day is observed in the schools as Health Day, for the purpose of presenting in a special manner the value and importance of conserving health.

(a.) *Physical Education.*

In 1850 (Acts of 1850, ch. 229) the Legislature first authorized the teaching of physiology and hygiene, and required that all teachers should be examined on such subjects. In 1907 (Acts of 1907, ch. 295) the powers of the School Committee were greatly enlarged in respect to physical education; authority being given to organize and conduct physical training and exercises, athletics, sports, games and play, and to provide proper apparatus, equipment and facilities for the same; and a special part of the tax levy was set aside for the purpose. There had been a department of physical training, but now, for the purpose of emphasizing the health side of the work, it was reorganized as the department of school hygiene under the director of school hygiene. In 1909 and 1910 school documents were issued containing outlines of elaborately prepared courses of study in physiology and hygiene for elementary schools and physical education for high schools. From the first grade in the elementary schools through the fourth year in the high schools a most minute course of instruction is laid out.

In the first of these documents appears this preliminary statement: "The children in the first three grades are too young to enter upon the study of hygiene, but they are not too young to be encouraged in habits of cleanliness, modesty and neatness."

In the foreword to the second document it is said: "The instructors in physical training and the instruct-

ors in athletics have exceptional opportunities for instilling into the minds and habits of the pupils who come to them for physical exercises lessons of personal hygiene, self-restraint and moral righteousness. The instruction given upon these subjects to pupils is necessarily individual in most instances; nevertheless, it is just that personal factor which makes the lessons taught effective and brings to each pupil a realization of the force of the truths of physical, mental and sex hygiene underlying health and happiness."

These two statements are the keynotes of the courses.

(b.) *Cleanliness.*

The children are taught the necessity of personal, including dental, cleanliness. The rules provide that every child must come to school clean in his person and dress, and with his clothes in proper repair. In some of the schools baths have been provided. These changes have had a wholesome effect.

(c.) *Nurses.*

In 1907 (Acts of 1907, ch. 357) the Legislature provided that the School Committee should appoint a force of female nurses to perform such duties as the committee might designate, but more particularly to assist the medical inspectors, appointed by the Board of Health, in their work in the public schools, and to give such instruction to the pupils as might promote their physical welfare. The force at present consists of a supervising nurse, and thirty-four district nurses who are attached to the Department of School Hygiene. Each nurse is assigned to a territory in which the school attendance is approximately 2,700 children. Her time is divided between work at the schools, escorting pupils to hospitals, and visits to the homes. The testimony of the masters of the schools and a careful study made by a representative of the Finance Commission leads to the belief that the nurses on the whole are faithful and efficient, and that their work is of distinct help to the schools. Certain

masters, who stated that originally they were opposed to the system, declared themselves as fully converted. That it has not reached its highest efficiency, and that there are opportunities for improvement is true of this, as of any new system; and the Director of Hygiene appreciates the fact. It is impossible to determine with exactness the amount or true value of the work done or the efficiency of supervision because of the lack of a satisfactory reporting system. The total figures for 1910-11 were not available up to the time of the writing of this report which is of itself a serious reflection upon the manner in which the records are kept. The Director of Hygiene has prepared a new system of reporting for the ensuing year which he expects will meet some of the criticisms made. There should be no delay in this matter.

On May 1 of this year a new system of medical inspection was introduced by the Board of Health and it is to be hoped that hereafter there will be no reason for the complaint which has sometimes been made of lack of co-operation on either side. The interests of the children require a real co-operation in practice as well as in theory.

(d.) Tests of Sight and Hearing.

Many an innocent child has been severely punished for inattention or supposed impudence who simply could not see or hear what was going on. To put in the back row a child whose eyesight and hearing is defective is merely to invite trouble; and yet for a long time the front seats were reserved as a reward for the bright, clear-eyed, quickly responsive scholars, and the supposed dullard was relegated to a place where his attention could by no means be attracted and his only resource was so-called mischief.

Under the provisions of the Acts of 1906 (ch. 502) the School Committee is required to cause each child in the public schools to be tested and examined separately and carefully, at least once each year, to ascer-

tain whether he is suffering from defective sight or hearing, or from any other disability or defect tending to prevent his receiving the full benefit of his school work, or requiring a modification of the school work in order to prevent injury to the child, or to secure the best educational results. The tests of sight and hearing are made by the teachers, and notice of any defect or disability requiring treatment is sent to the child's parent or guardian.

(e.) *Measuring and Weighing.*

At the suggestion of the Advisory Committee on School Hygiene, the School Committee in January, 1909, authorized the measuring and weighing of pupils from time to time in order to secure statistics relating to their growth and development, and appointed a professor of the Harvard Medical School as consulting physiologist. He withdrew later, however, and the work is now attempted by the school nurses. It is believed that one of the signs of disease is the failure of a child to grow in height and weight in a certain ratio, and this is one method of detecting and guarding against disease.

(f.) *Tuberculosis.*

In 1908 (Acts of 1908, ch. 181) the Legislature required that special instruction as to tuberculosis and its prevention should be given in the public schools, and the State Board of Education prepared a pamphlet entitled: "Tuberculosis and Its Prevention, Suggestions to Teachers," and this was distributed among the teachers for their guidance.

In the same year a private philanthropic organization had established an out-door camp for tuberculous children in the Jefferson School District, and at its request the School Committee furnished a special teacher to give instruction at the city's expense to the children in the camp. Later this camp was taken into the joint charge of the School Committee and the trustees of the Consumptives' Hospital, and was

transferred to a large building, known as the "refectory" in Franklin Park, which was fitted up for the purpose, the instruction being furnished by the School Committee.

A commission of five physicians was invited by the School Committee to investigate the problem of tuberculosis as affecting school children and later made a report accompanied by sundry recommendations. They reported particularly their observations as to the open-air school at Franklin Park, stating that "the commission regards the results obtained as most encouraging" and "strongly recommends that a further experiment with an out-door school on a larger scale be tried."

Notwithstanding this recommendation, and the apparent success of the school during the ensuing year, it has been discontinued by a majority vote (against the protest of a strong minority) of the trustees of the Consumptives' Hospital. A heated controversy followed the closing of the school, which demonstrated that there is much to be said on both sides, but, in the opinion of the Finance Commission, left it clear that it was unwise to end so hopeful an experiment.

(g.) *Physically Debilitated Children.*

There are many children, who, while not suffering from tuberculosis, or other contagious disease, are so physically debilitated that they cannot get the full benefit of their educational opportunities. These are the anæmic children; those who are undersized and below the normal weight; those showing evidence of glandular enlargement; the "sickly" or "scrofulous" children; and those who return to school after a long convalescence from illness.

In November, 1909, the Advisory Committee on School Hygiene, at the request of the School Committee, made an investigation and report as to the best means of helping these physically debilitated children. Their report, like that of the Committee on Tuberculous Children, laid special emphasis upon the necessity of

fresh air and sunshine. Open-air rooms with an abundance of direct sunshine were recommended, and it was suggested that these rooms, especially in the overcrowded districts, should be in the upper stories with a southern exposure; that arrangements should be made for the widest use of open windows; and that in all cases of out-door or open-air accommodations there should be protection for the feet and legs, a sleeping-bag, so called, being recommended as the most practical suggestion.

These suggestions have been followed to a large extent. In fact some of them were anticipated. Thus, the School Committee had already, in March, 1909, passed a vote asking the Schoolhouse Commissioners "to consider the question of establishing health rooms in new school buildings," to which the commissioners replied that plans had already been arranged for supplying experimentally what would practically be out-of-door rooms in the new Abraham Lincoln School, then under construction. The School Committee, upon receiving the report of the Advisory Committee, sent it to the Board of Schoolhouse Commissioners with the request that "said Board provide an open-air room or rooms in every new permanent school building."

The experiment was tried in 1909 and 1910, by a master of one of the elementary schools, of establishing a class of physically debilitated children in the open air in a corner of one of the school yards. The children gained in weight, and were reported as showing a marked physical and mental improvement; but the class has since been discontinued. Experiments of this sort are not expensive and do no harm; this seems to have done good. The wisdom of its discontinuance was doubtful to say the least.

To secure an ample supply of fresh air the rules were last year amended to provide that windows should be opened top and bottom for a sufficient portion of each period allotted to the setting-up drill, to insure the thorough ventilation of each room with outside air.

(h.) The Food Problem.

One of the most perplexing problems in dealing with the health of school children is that of their proper nourishment. The truth undoubtedly is that a large number are not properly cared for, either through lack of sufficient food or, if the quantity is sufficient, because of its poor quality or improper preparation. The latter fact was recognized by the School Committee last year in authorizing a series of lessons in cookery in certain schools for the purpose of instructing mothers in regard to the preparation of foods especially suited to anæmic children.

A system of school lunches in the high schools has been introduced, under an arrangement with a private association, through which wholesome food is furnished at low prices. This arrangement has been attacked as savoring of favoritism toward the association which furnishes the lunches, but the Finance Commission has not been able to discover any just foundation for the charge. The commission has suggested to the School Committee that an opportunity should be given all responsible bidders to be heard on the question of whether they could and would furnish equally good food at lower prices, but it has no hesitation in indorsing the attitude of the School Committee that the quality of the food is of prime importance and should be the controlling factor in making any arrangement of this kind. In a number of the schools a mid-morning lunch at a nominal sum is provided for the benefit of anæmic children.

SECTION 4. MENTALLY DEFICIENT CHILDREN.

In 1898 a movement to set apart and educate the mentally deficient children of the public schools was begun. A teacher who was especially interested and qualified was assigned the duty of investigating the number and character of the cases reported by the masters of the schools. As a result of her study a single

class was established experimentally in January, 1899, and this was so successful that in December of the same year a second class was established, and there are now nine such classes. It is too much to expect a regular teacher with a large class to give special care and attention to one or more feeble-minded children. Although parents dislike to have their children thus segregated, it is essential for good administration, and generally it can be made plain to them that it is also beneficial to the child. A special medical inspector for these classes has been appointed.

SECTION 5. RETARDATION.

The promotion of pupils according to their respective qualifications, and not by fixed rules at fixed dates, is a serious and difficult problem which has long disturbed educators. Bright, capable children have been held back by their less fortunate or less interested classmates. To meet this difficulty the regulations provide that promotions of individual pupils from grade to grade may be made at any time by the principal, with the approval of the assistant superintendent in charge of a district; and whenever the work of one grade is finished by a class, the work of the next grade is to be taken up at once. But the difficulty does not stop here; the problem of the backward child is still to be solved. The backward child is not only a burden upon the teacher and the class, but he is a heavy charge financially to the schools, as he must be taught the same thing twice, thus doubling the expense. Last year a study of this subject was made in the elementary schools, and it was found that about 8,500 pupils, or 10 per cent of the registration, were "retarded," that is, unable to make the advance to the next grade. Reports on each case were received from the principals, and the causes were tabulated, resulting in the following summary:

Illness (diphtheria, scarlet fever, measles, surgery, etc.)	1,252
Absence caused by truancy, neglect, home work	468
Entered late in the school year	650

Came from other schools	405
Repeated change of schools	181
Came recently from foreign countries	331
Promoted on trial at beginning of year	239
Defective hearing	83
Defective vision	241
Defective speech	53
Deformities	31
Lazy	538
Inattentive	495
Mentally deficient	369
Mentally immature (slow mental development)	2,803
Causes unknown	196
Adenoids	13
Nervous	7
Cigarette smokers	14
Miscellaneous	127
	<hr/>
	<u>8,496</u>

The chief value of this report lies in the accompanying announcement by the school authorities of their intention to follow up these cases in the home through the district nurses in order that, as far as possible, any defect or impediment may be remedied, and that each child may be helped to help himself to an education.

It will undoubtedly be found that some of the 538 cases described as "lazy," or of the 495 as "inattentive" have undiscovered physical defects which may be remedied.

SECTION 6. ATHLETICS.

One great danger in competition in athletic games between schools and classes is the physical injury that may come from overdoing and another is the spirit of ungenerous rivalry that sometimes develops. The whole subject of athletics has been placed in the hands of the director of school hygiene, under the superintendent, and great care is taken in securing a proper supervision over the players and the games.

SECTION 7. PLAYGROUNDS.

The first appropriation for playgrounds in connection with the Boston schools was made in 1899. Prior to

that time some of the school yards had been opened in summer as playgrounds for children under private auspices. In 1900 what were known as vacation schools were first opened and they continued to grow in number and popularity. They were never true schools, in the academic sense, their real purpose being to keep children who had no other place to play during vacation occupied healthfully, pleasantly, and away from the streets and under mild supervision. In 1908 they were partly, and in 1909 wholly, given up as a separate organization and were merged into summer playgrounds, under the provisions of the legislative Act of 1907 (ch. 295), already referred to. A manual for public school playgrounds has been issued, and this branch of the school activities, now thoroughly recognized both by the law and by public opinion, has developed to large proportions.

TABLE I.

Table I.

Average Whole Number of Pupils Belonging for Year Ending June

SCHOOL.	1898.	1899.	1900.	1901.	1902.
Latin.....	609	622	610	564	564
Girls' Latin.....	336	344	360	347	347
Brighton High.....	246	225	210	243	243
Charlestown High.....	283	352	340	317	317
Dorchester High.....	291	351	410	521	521
East Boston High.....	211	242	263	296	296
English High.....	841	849	863	806	806
Girls' High.....	884	926	984	1,018	1,018
High School of Commerce.....	—	—	—	—	—
Practical Arts High.....	—	—	—	—	—
Mechanic Arts High.....	313	375	431	451	451
Roxbury High.....	555	597	656	684	684
South Boston High.....	—	—	—	—	—
West Roxbury High.....	243	274	245	292	292
Total Latin and High.....	4,812	5,157	5,372	5,539	5,539
Normal.....	279	285	244	196	196
Elementary.....	65,920	67,529	69,879	71,346	73,000
Horace Mann.....	111	118	118	123	123
Spectacle Island.....	22	16	18	18	18
Kindergarten.....	3,926	3,904	4,224	4,415	4,415
Pre-Apprentice School.....	—	—	—	—	—
Trade School for Girls.....	—	—	—	—	—
Total day schools.....	75,070	77,009	79,855	81,637	83,000
Evening high.....	2,326	1,930	2,053	2,067	2,067
Evening elementary.....	3,148	2,739	3,145	3,403	3,403
Evening drawing-industrial.....	481	534	594	582	582
Total all schools.....	81,025	82,212	85,647	87,689	90,000
Increase.....	—	1,187	3,435	2,042	2,042

Table I.

Average Whole Number of Pupils Belonging for Year Ending June 30.

1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
553	555	545	593	591	606	687	761	756
342	363	355	388	407	483	583	620	656
256	268	319	289	273	301	352	325	344
213	197	224	257	265	317	391	422	478
854	1,008	1,085	1,115	1,166	1,122	1,189	1,350	1,408
346	398	371	411	369	403	457	496	545
738	776	860	922	942	955	1,069	1,259	1,480
842	916	1,049	1,088	1,100	1,104	1,358	1,531	1,739
—	—	—	—	132	316	509	666	785
—	—	—	—	—	94	234	346	460
604	658	679	710	696	745	1,034	1,252	1,301
684	639	660	610	610	624	755	787	856
508	485	495	531	496	519	590	652	678
334	348	355	385	397	432	517	583	635
274	6,611	6,997	7,299	7,444	8,021	9,725	11,050	12,121
225	235	286	321	238	211	211	219	224
776	76,575	78,681	80,123	81,467	81,934	82,396	82,739†	81,366
125	131	136	152	142	144	153	155	144
10	8	7	11	8	10	12	6	7
855	4,975	5,301	5,536	5,604	5,606	5,571	5,694	5,133
—	—	—	—	—	—	—	—	37
—	—	—	—	—	—	—	196	237
265	88,535	91,408	93,442	94,903	95,926	98,068	100,059	99,269
584	4,424	4,810	4,764	3,517	3,878*	4,169	3,849	3,836
665	4,117	4,361	5,523	6,764	8,264*	7,209	5,740	5,973
691	706	647	663	670	647*	702	537	526
205	97,782	101,226	104,392	105,854	108,715	110,148	110,185	109,604
916	4,577	3,444	3,166	1,462	2,861	1,433	37	581‡

* January 31, 1908, figures only; June 30 not available.

† Including 92, total registration at Pre-Apprentice School. ‡ Decrease.

PART III. FINANCIAL REVIEW.

CHAPTER I. PRELIMINARY STATEMENT.

SECTION 1. THE STATUTES AUTHORIZING APPROPRIATIONS.

The right given in 1898 to the School Committee to make its own appropriations was subject to certain limitations in amount, which have from time to time been changed by the Legislature.

In 1898 (Acts of 1898, ch. 400) the amount authorized was \$2.80 upon each \$1,000 of taxable valuation for the year ending January 31, 1899; \$2.85 for the year ending January 31, 1900; and for future years \$2.90. Of these amounts, not less than 25 cents upon each \$1,000 of taxable valuation was required to be expended solely for repairs and alterations upon school buildings.

In 1901 (Acts of 1901, ch. 448) the amount authorized was raised to \$3.40 upon each \$1,000 of taxable valuation, and from this sum of \$3.40 there was required to be appropriated not less than 40 cents solely for new school buildings, lands, yards and furnishings, and not less than 25 cents solely for repairs and alterations of school buildings. These are popularly known as the "40 cents" and "25 cents" funds, and will be so referred to hereafter.

In 1909 (Acts of 1909, ch. 388) the amount authorized was raised for the year ending January 31, 1910, to \$3.50; for the following year to \$3.60; and for each year thereafter to \$3.70 on each \$1,000 of taxable valuation; these amounts including the "40 cents" and "25 cents" funds previously referred to.

In the present year the Legislature has authorized a further increase to \$3.80 for the year ending January

31, 1913, to \$3.90 for the following year and to \$3.95 for each year thereafter, on each \$1,000 of taxable valuation, these increases to be applied wholly to the increase of the salaries of teachers. (Acts of 1911, ch. 708.)

Several other acts were passed during this period providing relatively small amounts for various objects. Thus, in 1903 (Acts of 1903, ch. 170) the School Committee was authorized to divert from the "40 cents" fund, to the general support of the public schools, a sum not exceeding \$60,000, as the usual appropriation was insufficient to meet the abnormally high cost of coal caused by the coal strike.

In 1906 (Acts of 1906, ch. 205) authority was given to the new School Committee of five to divert from the "25 cents" fund the sum of \$60,000 to enable them to pay overdue salaries to teachers, which the former School Committee of twenty-four had left unpaid. *

In 1907 (Acts of 1907, ch. 295) the powers of the School Committee in respect to physical education were enlarged, and authority was given to appropriate for this purpose, in addition to its other appropriations, 2 cents that year, and annually thereafter 4 cents, upon each \$1,000 of taxable valuation.

In the same year, 1907 (Acts of 1907, ch. 357), the duty of appointing supervising and district nurses for the schools was placed upon the School Committee, and for this purpose authority was given to appropriate, in addition to its other appropriations, a sum not exceeding \$10,000 for that year, and annually thereafter 2 cents upon each \$1,000 of taxable valuation.

In 1908 (Acts of 1908, ch. 589) a pension system was established, and for this purpose the School Committee was required to appropriate, in addition to its other appropriations, 5 cents on each \$1,000 of taxable valuation.

The increases over appropriations authorized for the years 1911 and 1912, which will result from the opera-

* Subsequently by vote of the School Committee, January 7, 1907, \$15,000 of the \$60,000 was transferred back to the fund for repairs and alterations.

tion of chapter 708 of the Acts of 1911, and which will become effective in 1913, are shown by the following table:

	AMOUNTS AUTHORIZED FOR YEAR ENDING				
	Jan. 31, 1911.	Jan. 31, 1912.	Jan. 31, 1913.	Jan. 31, 1914.	Jan. 31, 1915, and thereafter.
General school purposes	\$2 95	\$3 05	\$3 05	\$3 05	\$3 05
Land and buildings	40	40	40	40	40
Repairs and alterations	25	25	25	25	25
Increases, salaries of teachers	—	—	10	20	25
	\$3 60	\$3 70	\$3 80	\$3 90	\$3 95
Physical education	04	04	04	04	04
Nurses	02	02	02	02	02
Pensions	05	05	05	05	05
Totals	\$3 71	\$3 81	\$3 91	\$4 01	\$4 06

SECTION 2. DIFFICULTIES OF COMPARATIVE STUDY.

In making a study of school finances, as applied to actual school work, a serious difficulty is encountered in the fact that the financial year closes on January 31, whereas the educational year closes on June 30, and statistics as to the two are made up by the respective authorities on these different bases.

Until recently educational statistics were published semi-annually, January 31 and June 30; and the averages for the half-year ending January 31 were too large while those of the second half-year, ending June 30, were too small, because the attendance in the first half was usually larger than in the second half of the year. Yet these statements for half-year periods are frequently used in the reports in comparison with other statements for the full year. In the superintendent's reports for the years 1909-10 and 1910-11 the January statement has been discontinued and statistics for the

entire year only have been given as of June 30. While there was danger of false conclusions from the use of the old method, it had a certain value which has been lost in the new method. There would seem to be no reason why the value of semi-annual statistics might not have been preserved, and the value of annual statistics obtained by continuing the January statement and enlarging the scope of the June statement.

Another difficulty lies in the fact that items of expense have not always been properly classified, and that the same item has not been classified always in the same way. Thus, until the fiscal year 1906-07, services of maids in kindergartens were charged to "Supplies and Incidentals," where they clearly did not belong. In that year the charge was properly transferred to "Salaries," but improperly to the subdivision "Salaries of Instructors." These maids do no teaching; their duty is to care for the small children and they are neither "Supplies and Incidentals" nor "Instructors." In 1897-98 their salaries amounted to \$1,897.95, which in 1905-06 had increased to \$8,993; and during these years "Supplies and Incidentals" were thus overcharged, while "Salaries" were undercharged by the respective amounts paid; and after 1905-06 "Salaries of Instructors" were similarly overcharged. In 1899-1900 vacation schools, then newly introduced, cost \$3,000, and in 1900-01, \$3,083.21, and these amounts were classified as "Supplies and Incidentals," although a part was paid for salaries. In 1901-02 this error in classification was recognized, and of the total expenditures for vacation schools of that year, \$3,482.50 was charged to "Salaries of Instructors," while the balance of \$509.69 was properly charged to "Supplies and Incidentals." Record books used by the masters of the schools for keeping the school records were classified as "Books" until last year, when they were transferred to "Stationery." Other examples might be given.

CHAPTER II. SCHOOL EXPENDITURES.

SECTION 1. TABLE OF EXPENDITURES.

In Table II., annexed to Part III. of this report, there appears a complete statement of expenditures on account of the Boston public schools for the fourteen years from January 31, 1897, to January 31, 1911, the first year being given for purposes of comparison with the thirteen-year "period" (1898-1911) and its "subperiods" (1898-1905 and 1906-11).

The detailed figures in this table do not correspond in all respects with the figures given either in the school reports or the city auditor's reports, although the totals are substantially the same. The Finance Commission has had some of the items re-classified; thus, for example, under the heading "Salaries" the true situation is given as to kindergarten maids in each year. No attempt, however, has been made to recast all doubtful classification, as this would have involved an amount of labor and expense entirely disproportionate to any advantage gained. It is to be regretted that the school reports and those of the city auditor, although generally agreeing in totals, do not always correspond in details or in classification. This makes an inquiry more difficult, and demonstrates the necessity of a closer co-operation between departments and a more careful study of a uniform system of accounts. The school auditor, the business agent, and the city auditor should consult together and agree upon a standard of classification and itemization to be used in all reports.

SECTION 2. COST OF BUILDINGS.

At the end of Table II. is given the annual expenditure for land and new buildings, as follows:

"Period"	}	1898-99	\$626,515 93	}	"First subperiod."
		1899-1900	822,107 37		
		1900-01	737,183 81		
		1901-02	838,074 64		
		1902-03	945,089 34		
		1903-04	1,440,655 31		
		1904-05	2,114,851 23		"Second subperiod."
		1905-06	1,033,829 17		
		1906-07	716,482 77		
		1907-08	841,905 04		
		1908-09	771,019 50		
		1909-10	795,402 00		
		1910-11	1,034,933 29		
Total in thirteen years			<u>\$12,718,049 40</u>		

The greatest expenditure for new buildings was during, and near the close of, the "first subperiod." Thus, in the "first subperiod" the total cost of new buildings was \$8,558,306.80. In the last three years of the "first subperiod," 1903-04, 1904-05 and 1905-06, the cost was \$4,589,335.71. This, as shown by the list of new buildings given in Part II., represents a large increase in the school plant and there would consequently be expected in the "second subperiod" a large corresponding increase in maintenance cost; yet, as a matter of fact, it will be found that the figures in some instances show an actual decrease, which indicates economy.

By far the larger part of the great outlay for new buildings has been raised by loans. The attempt by the School Committee to exercise the authority granted in 1901 to appropriate out of the annual tax levy the "40 cents" fund for new school buildings has met with opposition from successive mayors. An appropriation of \$446,000 made in 1902 was vetoed by the Mayor, but he assented to an appropriation of \$90,000. In 1903 a further appropriation from the tax levy was attempted by certain members of the School Committee, but the necessary two-thirds vote was not obtained; and until 1910 there was no further attempt to carry out the provisions of this law. In that year an appropriation for this purpose of \$529,557 from the

tax levy was passed over the Mayor's veto; and in 1911, with the Mayor's approval, an appropriation of \$405,000 from the tax levy was made. The sound policy of paying for what is truly a current expense from the annual tax levy instead of from borrowed money now seems likely to become firmly established.

SECTION 3. COST OF THE SCHOOL SYSTEM.

The changes during the "subperiods" in the various classes of expenditure are shown by the following statement condensed from Table II. Figures are given for the three typical years:

	1897-98.	1905-06.	1910-11.
A. SALARIES:			
1. Instructors.....	\$1,817,218 00	\$2,677,000 56	\$3,166,799 10
2. Physical education instructors.....	—	—	51,593 78
3. Officers.....	69,385 00	83,572 07	106,730 54
4. Janitors, engineers, matrons, etc. . .	139,220 29	222,733 62	255,196 92
5. Nurses.....	—	—	26,476 55
6. Kindergarten maids.....	1,897 95	8,993 00	6,300 65
Total salaries.....	\$2,027,721 24	\$2,992,299 25	\$3,613,097 54
B. TEACHERS' PENSIONS.....			
	—	—	\$66,194 65
C. FUEL, LIGHT AND POWER:			
1. Coal.....	\$74,306 75	\$130,126 12	\$123,235 23
2. Wood.....	2,739 45	4,480 52	2,800 83
3. Gas.....	8,694 51	8,642 74	5,463 83
4. Electricity (light).....	—	16,655 58	22,314 35
5. Electricity (power).....	—	3,398 57	3,632 53
Total, fuel, light and power.....	\$85,740 71	\$163,303 53	\$157,446 77
D. WATER.....			
	\$10,275 58	—	—
E. SUPPLIES AND INCIDENTALS:			
1. Books.....	\$50,509 73	\$53,113 73	\$65,121 14
2. Printing.....	7,350 37	12,558 52	13,281 41
3. Miscellaneous items.....	71,003 57	115,653 35	146,290 80
Total, supplies and incidentals.....	\$128,863 67	\$181,325 60	\$224,693 35
F. REPAIRS, RENTS, ETC.....			
	\$229,941 27	\$336,700 00	\$358,500 00
G. TRUST FUNDS.....			
	\$1,904 30	\$4,187 79	\$7,522 10
Total cost.....	\$2,484,446 77	\$3,677,816 17	\$4,427,454 41
Income from nonresidents, trust funds, etc.....	42,287 16	57,246 54	78,237 23
Net cost.....	\$2,442,159 61	\$3,620,569 63	\$4,349,217 18

From this statement it appears that the total increases in net expenditures were as follows:

	Total Expenses.	Increase.
1897-98.....	\$2,442,159 61	—
1905-06.....	3,620,569 63	\$1,178,410 02
1910-11.....	4,349,217 18	728,647 55
Total increase, thirteen years.....	—	\$1,907,057 57

The average annual increase during the entire "period" was \$146,696.74; during the "first subperiod," \$147,301.25; and during the "second subperiod," \$145,729.51, showing a slight difference in favor of the "second subperiod." If the item of \$66,194.65 paid under the law in 1910-11 for teachers' pensions were eliminated, as it should be in order to make fair comparisons, the annual average increases would be as follows: "Period," \$141,604.84; "first subperiod," \$147,301.25; and "second subperiod," \$132,490.58; which makes a substantial difference in favor of the "second subperiod."

Although the annual average increase in cost is thus favorable during the first five years of the small School Committee, yet the last two years seem to show an unusually large increase, which requires special examination and explanation. This increase appears from the following statement:

	1908-09.	1909-10.	1910-11.
Salaries.....	\$3,318,577 77	\$3,469,806 68	\$3,613,097 54
Teachers' pensions.....	1,678 50	127,256 20	66,194 65
Fuel, light and power.....	134,020 94	149,987 67	157,446 77
Books.....	42,572 85	71,513 18	65,121 14
Other supplies and incidentals.....	128,354 42	154,961 70	159,572 21
Repairs, rents, etc.....	333,500 00	342,975 30	358,500 00
Trust funds.....	2,887 24	2,955 47	7,522 10
Total cost.....	\$3,961,591 72	\$4,319,456 20	\$4,427,454 41
Income.....	66,746 83	71,319 47	78,237 23
Net cost.....	\$3,894,844 89	\$4,248,136 73	\$4,349,217 18
Increase over previous year.....	\$101,696 87	\$353,291 84	\$101,080 45

SECTION 4. LARGE INCREASE IN THE LAST TWO YEARS.

Thus, the increase in 1909-10 over the year 1908-09 was more than three times the increase of the previous year and was immediately followed in 1910-11 by a further increase of \$101,080.45.

This statement unexplained might seem to imply extravagance in these two years, but the Finance Commission is convinced that the increases were inevitable. The items which make up the total increase are shown in the following table:

	1909-10.	1910-11.
Increase in salaries.....	\$151,228 91	\$143,290 86
Increase in pensions.....	125,577 70	* 61,061 55
Increase in fuel, etc.....	15,966 73	7,459 10
Increase in books.....	28,940 33	* 6,392 04
Increase in other supplies.....	26,607 28	4,610 51
Increase in repairs.....	9,475 30	15,524 70
Increase in trust funds.....	68 23	4,566 63
	\$357,864 48	\$107,998 21
Increase income.....	4,572 64	6,917 76
Net increase.....	\$353,291 84	\$101,080 45

* Decrease.

It will be seen that more than one-third of the total increase in 1909-10 over 1908-09 was due to the payment of teachers' pensions in accordance with the provisions of law. The increases in salaries in both years were mainly due to the operation of the teachers' salary schedules, which provide automatically for increases from year to year; and to the increased cost of janitors' service, which is also regulated by schedule and paid for according to the amount of work actually accomplished. The increase in the amount paid for books and other supplies was due to the necessity of meeting the normal demands and supplying the deficiencies of former years. The increase in the cost of fuel, light and power is clearly attributable to improved service in existing

buildings and the increased work required by the addition of new buildings. No opportunity for retrenchment in any of these items has been neglected by the School Committee, so far as the Finance Commission has been able to discover. The increase in the item of repairs is not abnormal; and the payments out of trust funds are regulated by the terms of the trusts.

SECTION 5. ANALYSIS AND APPORTIONMENT OF COSTS DURING THE LAST THREE YEARS.

The present business agent has issued three annual reports and in each has made a careful analysis of the actual cost of the schools, apportioning to each department and school its share of each class of expenses. From these the following comparative statement has been prepared, with some rearrangement, the purpose being to show just where the increases in cost during these years have occurred. The figures are based on the schedule rates of salaries, both for officers and subordinates, and on the cost of supplies, and expenses properly chargeable to each office or school. As in some instances these differ from the actual expenditures, the totals vary slightly from those of Table II., but not enough to affect the comparison.

	1908-09.	1909-10.	1910-11.
<i>1. Administration Expenses:</i>			
<i>(a) Business:</i>			
(1) Secretary.....	\$8,124 73	\$8,911 33	\$10,054 48
(2) Business Agent.....	8,186 07	9,221 59	9,724 49
(3) Auditor (including Supply Department).	15,926 85	15,977 02	17,389 12
(4) Schoolhouse Custodian...	3,011 74	3,037 33	3,044 45
(5) Maintenance of Mason street building and sundry incidentals.	4,986 41	5,279 61	3,937 96
<i>(b) Educational:</i>			
(1) Superintendent.....	13,240 53	12,891 03	13,881 49
(2) Board of Superintendents..	28,812 84	29,160 51	28,754 50
(3) Department of Drawing and Manual Training.	13,510 37	13,820 75	14,236 77
<i>Carried forward.....</i>	<i>\$95,799 54</i>	<i>\$98,299 17</i>	<i>\$101,023 26</i>

	1908-09.	1909-10.	1910-11.
<i>Brought forward</i>	\$95,799 54	\$98,299 17	\$101,023 26
1. <i>Administration Expenses.— Con.</i>			
(4) Department of Music.....	19,331 20	19,607 56	19,679 27
(5) Department of School Hygiene.	16,878 34	18,884 49	19,903 79
(6) Department of Substitutes,	3,192 79	4,416 20	5,559 78
(7) Department of Kindergartens.	1,807 81	1,803 48	1,949 50
(8) Department of Household Science and Arts.	1,486 51	1,409 15	1,700 23
(9) Department of Evening Schools.	3,050 46	2,847 26	3,238 31
(10) Truant Officers.....	31,999 58	31,613 82	32,004 53
(11) Committee on Vocational Guidance.	—	—	144 15
(12) Proportion of printing and binding.	8,468 13	8,303 08	12,311 84
2. <i>Direct School Charges (including salaries of teachers and janitors, fuel, light, books, etc.):</i>			
(1) Normal.....	37,773 97	39,815 59	38,848 22
(2) Latin and High.....	696,521 84	798,455 33	857,241 95
(3) Elementary (including kindergarten).	2,521,380 92	2,603,210 61	2,679,912 29
(4) Horace Mann School.....	28,942 27	29,332 26	29,216 50
(5) Summer High School.....	—	1,934 32	1,742 98
(6) Continuation School.....	—	—	1,788 69
(7) Trade School for Girls.....	—	8,056 62	24,611 58
(8) Pre-Apprentice School of Printing (equipment).	—	149 00	3,038 08
(9) Evening High.....	37,542 20	42,741 09	38,800 79
(10) Evening Elementary.....	70,984 43	74,308 73	61,763 44
(11) Evening School Extension,	—	669 04	1,280 88
(12) Evening Industrial (drawing).	15,201 75	13,439 30	10,712 03
(13) Park playgrounds.....	3,876 09	11,372 06	14,600 30
(14) School yard playgrounds..	10,332 33	15,198 28	9,895 28
(15) Franklin Park School.....	—	—	4,267 20
3. <i>Miscellaneous School Expenses. Not chargeable to specific schools.</i>	18,722 16	17,807 56	20,522 27
	\$3,623,292 32	\$3,843,674 00	\$3,995,757 14
4. Pensions.....	1,678 50	127,256 20	66,194 65
5. Repairs.....	333,500 00	342,975 30	358,500 00
6. Trust Funds.....	2,887 24	2,955 47	7,522 10
	\$3,961,358 06	\$4,316,860 97	\$4,427,973 89
Less income.....	66,746 83	71,319 47	78,237 23
	\$3,894,611 23	\$4,245,541 50	\$4,349,736 66
Variation from Table II.....	233 66	2,595 23	519 48
	\$3,894,844 89	\$4,248,136 73	\$4,349,217 18

In the administrative departments, both on the business and educational sides, the changes have been comparatively slight. The first five items represent the cost of the business administration, including the secretary, business agent, auditor (and supply department), schoolhouse custodian, and general maintenance charges at Mason street. These amounted altogether to \$40,235.80 in 1908-09; \$42,426.88 in 1909-10, and \$44,150.50 in 1910-11, or about 1 per cent of the total school expenditures. This cannot be called large in view of the character and extent of the work done.

On the educational side the total administration cost (excluding that of truant officers, which remained practically stationary, and also the arbitrary apportionment for printing and binding) was \$101,310.85 in 1908-09, \$104,840.43 in 1909-10, and \$109,047.79 in 1910-11, a total increase of \$7,736.94, of which \$3,025.45 was in the department of school hygiene, \$2,366.99 in the department of substitutes and the remainder divided in small amounts among the other departments. The increase in the superintendent's office and the Board of Superintendents was trifling.

The substantial increases were in the schools, the most notable being in the high schools, viz., \$101,933.49 in 1909-10, and a further increase of \$58,786.62 in 1910-11, a total of \$160,720.11 in two years. In the elementary schools the increase was \$81,829.69 in 1909-10 and \$76,701.68 in 1910-11, a total of \$158,531.37 in two years. The increase last year in the cost of elementary schools exceeded that of high schools by \$17,915.06; but the total increase for the two years of the high schools exceeded that of the elementary schools by \$2,188.74. The proportional increase in high schools was much greater than that in the elementary schools. The Trade School for Girls appeared for the first time in 1909-10, with a cost of \$8,056.62, which in 1910-11 became \$24,611.58. So with the Pre-Apprentice School of Printing and Bookbinding, which first appeared in 1909-10, with an equipment cost of \$149, followed by an

increase to \$3,038.08 in 1910-11. The Summer High School and the Continuation School, both new experiments, added slightly to the cost in these two years. The Franklin Park School for tuberculous children cost \$4,267.20 in the single year (1910-11) of its existence.

The evening schools, in the last year, show a substantial falling off in cost, for the reasons given in the earlier part of this report. Playgrounds in the parks and school yards show an increase of \$12,361.92 the first year and a net increase for the two years of \$10,287.16. These are paid from the special tax levy authorized for physical education.

SECTION 6. SALARIES.

Of the total school expenditures for all purposes in 1897-98, 83 per cent was for salaries; in 1905-06 it was also 83 per cent; in 1909-10 it was 81 per cent; and last year it was again 83 per cent, leaving only 17 per cent for all other school needs. Deducting the total amount paid last year for salaries, \$3,613,097.54, from the total school expenditures, \$4,349,217.18, there was left for all other expenses only \$736,119.64.

1. *Salaries of Instructors.*

This item includes salaries of masters of schools, but not salaries of the supervising force, or directors of departments, as they are included under the heading of officers. It does not at present include instructors of physical education. Of the total amount paid for all salaries, approximately 89 per cent is paid each year to the teaching force.

The total expenditure for salaries of instructors in the three representative years was as follows:

1897-98	. . .	\$1,817,218 00			
1905-06	. . .	2,677,000 56	Increase	. . .	\$859,782 56
1910-11	. . .	3,166,799 10	Increase	. . .	489,798 54
Total increase					<u>\$1,349,581 10</u>

The average annual increase for the "period" was \$103,813.93; for the "first subperiod" \$107,472.82; and

for the "second subperiod" \$97,959.71. In the year 1909-10 the increase over the previous year was \$131,804.62, and last year there was a further increase of \$136,397.09.

There has been no substantial change in the salary schedule since 1898, except that of July, 1911; and the causes of these later large increases must therefore be sought elsewhere. They are:

(a) The increase in the number of elementary teachers, due to the gradual reduction of the quota of pupils to teachers.

(b) The increase in the number of more expensive Latin and high school teachers, due to the increase in attendance and the establishment of new high schools.

(c) The operation of the sliding scale in the salary schedule, whereby each teacher beginning on the minimum salary receives an annual increase until the maximum salary is reached.

The following table shows the number of teachers, as of June 30, in each of the following years:

	1907.	1908.	1909.	1910.
Latin and High schools.....	276	297	339	406
Elementary schools.....	2,004	2,040	2,126	2,211

The increase of Latin and high school teachers from 1907 to 1908 was 21; from 1908 to 1909, 42; from 1909 to 1910, 67; a total of 130. The increase of elementary teachers from 1907 to 1908 was 36; from 1908 to 1909, 86; from 1909 to 1910, 85, a total of 207. In the year of appointment the increase is only felt in the amount of salary paid that year, but each year thereafter, by the operation of the sliding scale, each teacher receives automatically a salary increase, and this in the aggregate amounts to a very large sum. The annual increase varies according to the position; in the Latin and high

schools, \$60, \$72, \$120 or \$144; and in the elementary schools, \$24, \$48 or \$120. If a teacher on the maximum salary is retired and a new teacher appointed in his place starting at the minimum salary, the schedule works financially in favor of the school; but if new positions are created, it works the other way. Where, as has recently been the case, the number of new positions is unusually large, the annual increase thus becomes a serious burden. The 130 new Latin and high school teachers and the 207 new elementary teachers, aggregating 337 teachers, are all on the sliding scale, and, if their average annual increase was only \$72 (and it was probably more), there was last year and will be hereafter for several years an increase in the salary list on that account alone of about \$25,000.

On June 30, 1911, the number of teachers had still further increased by 29 in the Latin and high schools; but, owing to the decrease of pupils in the elementary schools, the number of elementary teachers had decreased 28. The increase in salaries for the next year will nevertheless continue, because of the sliding scale.

The highest salary which any male teacher in the Boston schools may receive under existing schedules is the maximum salary of a master of the Normal School, a Latin school or high school, namely, \$3,780. The highest salary which any woman teacher may receive under existing schedules is the maximum salary of a master of an elementary school, namely, \$3,180. These salaries, considering the importance of the positions, do not seem to the Finance Commission to be excessive; nor do the salaries of the teachers of lower rank in the secondary or the elementary schools seem too high.

The Finance Commission has already reported upon the salaries of teachers in the elementary schools, recommending an increase, a copy of the report being hereto annexed as an appendix. Under the provisions of the Acts of 1911, ch. 708, a new schedule of salaries was made in July of this year, increasing the salaries of

certain of the elementary school teachers, as well as of some others in the service.

2. *Salaries of Officers.*

This item includes salaries of both principals and subordinates in all administrative departments. There has hardly been one of these salaries which has not been the subject of adverse criticism, but, so far as the Finance Commission has been able to ascertain, this criticism has had little, if any, just ground.

The superintendent is at the head of one of the great educational institutions of the country, a position of vast responsibility. He receives \$6,000 a year; much less than is paid in some of the other large cities; and no more than is paid in some cities inferior in rank to Boston. The superintendent of schools in New York receives \$10,000; in Chicago, \$10,000; in Philadelphia, \$7,500; in St. Louis, \$7,000; in Seattle, \$6,500; and in Detroit, Jersey City, Newark, Cincinnati, Cleveland, Pittsburgh, Milwaukee and Denver, \$6,000.

The assistant superintendents receive \$4,500 each. The members of the former board of supervisors received \$3,780; and the increase in salary granted in 1906 represented the difference in the character and responsibility of the new position.

The heads of departments receive the following salaries:

	Minimum.	Maximum.
Supervisor of Substitutes.....	\$2,580 00	\$3,420 00
Director of Music.....	3,000 00	3,000 00
Director of Drawing and Manual Training.....	3,060 00	3,420 00
Director of Evening and Continuation Schools.....	3,000 00	3,000 00
Director of Kindergartens.....	1,800 00	1,800 00
Director of Household Science and Arts.....	1,800 00	1,800 00

In the opinion of the Finance Commission, the salaries of the superintendent, assistant superintendents and heads of departments are not excessive.

Prior to 1908, truant officers were paid a fixed sum, the chief \$1,900 and others \$1,400 annually, without regard to their length of service. In that year a sliding scale was established for appointments made thereafter of \$1,080 for the first year, with an annual increase of \$80 until the maximum of \$1,400 should be reached.

In December last the position of secretary to the superintendent was established in place of that of chief clerk, and the salary of the incumbent was raised to \$3,180, over the Mayor's veto. Considering the importance and responsibility of the office, the salary does not seem to the Finance Commission to be too large.

In 1897-98 the salary of the secretary of the School Committee was \$3,000, which amount was raised in 1898 to \$3,300; and the salary of the auditor in 1897-98 was the same amount, \$3,300. The salaries of both were raised to \$3,780 in 1906 at the beginning of the "second subperiod," to meet the increased duties and responsibilities caused by the change in the constitution of the School Committee, and at about the same time the salary of the business agent was fixed at the same figure. The amounts are in no sense overpayments; each fully earns every dollar he receives.

The salary of the schoolhouse custodian is \$2,004, which seems entirely reasonable.

3. *Salaries of the Clerical Force.*

The compensation of subordinate employees is nominally based upon the following order adopted in June, 1907, by the School Committee (Minutes, page 105):

Ordered, That the compensation of clerks and stenographers hereafter employed in the offices of the School Committee shall be established at the following rate:

First year, \$600; annual increase, \$60; maximum, \$840; and that such clerks and stenographers who are now in the service and who receive less than \$840 per annum shall continue on their present salaries until March 1, 1908, when they shall be severally advanced at the rate of \$60 per annum; and shall thereafter be advanced at the same rate on March 1 of each succeeding year until the maximum of \$840 shall be attained; *provided* that such increases shall not be allowed unless the heads of the

offices in which such stenographers and clerks are employed shall certify that the services of such employees during the preceding year have been satisfactory.

This order has been honored quite as much in the breach as in the observance, the School Committee having repeatedly authorized exceptions thereto, especially during the last year. This seems to the Finance Commission improper, as it is likely to give rise to dissatisfaction and charges of favoritism, besides being unfair to others on the civil service list who might have taken the office had they known that the schedule was not to be observed. It is much better, as in the case of the teaching force, to adhere to the schedule, even at the risk of losing valuable employees. If the schedule is not sufficient to attract and hold the right persons, it should be changed, but while it stands it should be observed.

4. *Salaries of Janitors, Engineers and Matrons.*

The increase in the cost of schoolhouse service is shown by the following statements for the three representative years:

1897-98	\$139,220 29			
1905-06	222,733 62	Increase	\$83,513 33	
1910-11	255,196 92	Increase	32,463 30	
Total increase			<u>\$115,976 63</u>	

The average annual increase for the "period" (1898-1911) was \$8,921.28; for the "first subperiod" (1898-1905) \$10,439.17; and for the "second subperiod" (1906-11) \$6,492.66. Last year there was a net decrease from the previous year of \$784.17, due in part to a change in the system of payments and in part to the reduction in the number of evening sessions.

The general increase in cost of this class of service is due to the change in the character and size of the buildings. In 1897-98 the total charge for schoolhouse service in the secondary schools was \$18,434.80; in 1905-06 it was \$33,826.60; and in 1910-11 it was

\$46,921.09. The details of the increase will appear from the following statement of comparative cost of service in some of the old and the new high school buildings.

The cost for janitor service in the old Dorchester High School was \$780; with the opening of the new building in 1901 the cost increased more than five-fold to \$4,032; and last year, because of the new annex, it reached \$5,016. The janitor cost at the West Roxbury High School has increased from \$540 in the old school in 1898 to \$3,099 in the new school in 1911. The South Boston High School was not in existence in 1898; its present janitor cost is \$3,698. The janitor cost of the Mechanic Arts High School in 1898 was \$2,508, and in 1911, because of the enlargement, reached \$6,396. In the schools housed in the Normal Group, and including the High School of Commerce colony, the janitor cost is now over \$8,000 (Normal School, \$2,934.06; High School of Commerce, \$2,655.94; and Girls' Latin School, \$2,445.04, total \$8,035.04). In 1897-98 there was no Normal Group; the High School of Commerce was not in existence; the Normal School occupied the upper floor of a small elementary school building; the Girls' Latin School was in hired quarters; and the cost of schoolhouse service was comparatively insignificant.

In the elementary schools the total amount paid for this class of service in 1897-98 was \$115,525.02; in 1905-06 it was \$180,318; and in 1910-11 it had increased to \$194,217. The janitor of the old Mather School in 1897-98 was paid \$708; the janitor charge in the new building in 1910-11 was \$2,800. The janitor of the old Bigelow School in 1897-98 was paid \$900; the janitor charge in the new building in 1910-11 was \$2,160. The janitor of the old Chapman School in 1897-98 was paid \$1,020; the janitor charge in the new building in 1910-11 was \$1,812. In the Washington School, opened at the West End in 1904, the schoolhouse service cost was \$3,324, whereas in such an old-fashioned

building as the Charles Sumner School at Roslindale the cost in 1897-98 was \$780 and is now but \$996.

The salaries paid janitors seem large in many instances, but the amount named covers the personal service not only of the janitor in charge, but the skilled engineers and a large number of necessary subordinates whom he employs and pays. The figures given also include in several instances the pay of matrons in the high schools and in those buildings which have baths, the standard wage of matrons being \$540 per year.

In January, 1904, a carefully prepared scientific salary schedule for janitors of elementary schools was adopted by the School Committee, which was extended to Latin and high schools in 1907, and this has since been strictly adhered to by the school authorities. The factors of service are divided into (1) cleaning, (2) heating, ventilation and superintendence, (3) washing of windows, (4) care of yards and sidewalks, and (5) care of lawns. The buildings are classified and the compensation is based upon actual areas; there is thus no overpayment to individual janitors through favoritism, as was often the case formerly, but each janitor is paid for exactly what he does or provides.

5. *Other Salaries.*

Prior to 1907-08 the salaries of instructors in physical education, including military drill, were charged to the general item of "Salaries of Instructors." Since 1907, when a special part of the tax rate was segregated for this purpose, such salaries (including that of the director of school hygiene, \$3,756) have been kept as a separate charge, which has gradually grown from \$15,592 in 1907-08 to \$51,593.78 in 1910-11. The instructor in military drill receives \$2,004. The medical inspector receives \$1,008.

The salaries of school nurses, beginning with \$4,014.13 in 1907-08, have increased to \$26,476.55 in 1910-11, under the special statutory provision regarding nurses.

The salary of the supervising nurse is \$1,212 minimum, and maximum \$1,500; while assistant nurses receive a minimum of \$648 and a maximum of \$840.

Kindergarten maids were at first paid 25 cents a day for attending to the wants of the young children; this has been increased to 50 cents a day for a single session or 80 cents a day for two sessions.

Some of these salaries are low; and in the opinion of the Finance Commission none are too large.

SECTION 7. FUEL, LIGHT AND POWER.

The total cost of fuel, light and power in the three representative years was as follows:

1897-98	.	.	.	\$85,740	71			
1905-06	.	.	.	163,303	53	Increase	.	\$77,562
1910-11	.	.	.	157,446	77	Decrease	.	5,856
								76
								<hr/>
Net increase	.	.	.	.	.	.	.	<u>\$71,706</u>
								<u>06</u>

The cost of coal increased \$55,819.37 in the "first subperiod" (1898-1905) and decreased \$6,890.89 in the "second subperiod" (1906-11). Were it not for the substitution of bituminous coal for anthracite, as already described, there would have been a large increase in the "second subperiod" instead of a decrease. Great care is taken in the purchase of coal; contracts are awarded to the lowest bidder after advertisement, upon carefully prepared specifications; and the coal delivered is analyzed in order that the schools shall pay only for what is received.* The cost of wood decreased \$1,679.69; and the cost of gas decreased \$3,178.91; while the cost of electric light and power increased \$5,892.73. Electric light cost \$15,564.16 in 1908-09, and \$22,314.35 in 1910-11, an increase of \$6,750.19 in these two years over the previous year. This will be a serious factor in the cost of school maintenance in the future.

*The expense of analyzing coal last year was \$335.15.

SECTION 8. SUPPLIES AND INCIDENTALS.

The cost of this item, which includes books, supplies and incidentals of all kinds, and which represents an essential part of the school system, amounts to only about $5\frac{1}{4}$ per cent of the total school expenses. It is the one branch which seems to be most easily neglected when there is a financial pressure. The cost in the three representative years was as follows:

1897-98	\$128,863 67			
1905-06	181,325 60	Increase	\$52,461 93	
1910-11	224,693 35	Increase	43,367 75	
			<hr/>	
Total increase			<u>\$95,829 68</u>	

The average annual increase for the "period" was \$7,371.51; for the "first subperiod" \$6,557.75, and for the "second subperiod" \$8,673.55. In 1909-10 the increase was \$55,547.61, following a decrease in the previous year of \$16,331.99; in other words an expensive year followed a year of parsimony.

SECTION 9. REPAIRS, ETC.

This branch of the school work is under the Board of Schoolhouse Commissioners, and as already stated the Finance Commission desires to reserve its report thereon until a later period.

SECTION 10. TRUST FUNDS.

From time to time charitably disposed persons have left to the city trust funds to be used for the benefit of individual schools, or those in a particular locality. These trusts are as follows:

1. Bowdoin Fund, established in 1797 by James Bowdoin for the benefit of the Dorchester (and by a ruling of the Corporation Counsel, South Boston) schools . . . \$4,500 00
 2. Charlestown School Fund, under an act of the Legislature passed in 1793, incorporating the "Trustees of the Charlestown Free Schools" 8,873 53
-
- Carried forward* \$13,373 53

	<i>Brought forward</i>		\$13,373 53
3.	Comins School Fund, a donation by Linus B. Comins in 1855, for the library of the Comins Grammar School in Roxbury		500 00
4.	Devens Infant School Fund, established under the will of David Devens, who died in 1855, for the benefit of infant schools in Charlestown. The income is now paid to the Hunt's Asylum for Destitute Children in Charlestown		1,000 00
5.	Eastburn School Fund, bequeathed by John H. Eastburn who died in 1873, to help deserving pupils through the Normal School		11,000 00
6.	Franklin Medal Fund, established under the will of Benjamin Franklin, the medals being given to graduates of the Boston Latin School, English High School and Mechanic Arts High School, who have attained high rank in scholarship and conduct		1,000 00
7.	Gibson School Fund, bequeathed about 1674 by Christopher Gibson for the benefit "of the schools of learning in the town of Dorchester," which includes South Boston		73,340 43
8.	Horace Mann School Funds:		
	(a) Samuel E. Sawyer Fund	\$2,400 00	
	(b) Elizabeth Lewis Fund	1,000 00	
	(c) Susan E. Gavett Fund	5,000 00	
		<hr/>	8,400 00
9.	Latin School Prize Fund, donation made by a number of gentlemen in 1819, the income for prizes to pupils who attain high rank in the Latin School		1,050 00
10.	Lawrence High School Fund, a donation made by Abbott Lawrence in 1844, for prizes to pupils who attain high rank in the English High School		2,000 00
11.	Lawrence Latin School Fund, a donation made by the same benefactor in 1845 for prizes to pupils who attain high rank in the Latin School		2,000 00
12.	Milmore Brimmer School Fund, bequeathed by Martin Milmore who died in 1883, to aid in clothing poor children attending the Brimmer School, now merged with the Abraham Lincoln School		500 00
13.	Norcross School Library Fund, donation by Otis Norcross to be expended in books for the library of the Norcross School in South Boston		1,000 00
14.	Sherwin School Graduates' Fund, contributed by graduates and others interested in that school for its benefit,		255 50
15.	Smith Fund, bequeathed by Abiel Smith, who died in 1815, for the "Free Instruction of Colored Children in Reading, Writing and Arithmetic," now credited to general public school expenses, there being no schools exclusively for colored children		8,600 00
	<i>Carried forward</i>		<hr/> \$124,019 46

<i>Brought forward</i>	\$124,019 46
16. Stoughton School Fund, a bequest in the will of Gov. William Stoughton, who died in 1701, for "the advancement of the salary of the schoolmaster," now credited to teachers' salaries generally	5,300 00
17. Teachers' Waterston Fund, a bequest in the will of Rev. Robert C. Waterston who died in 1893, to provide lectures for teachers upon natural history	4,800 00
18. Webb Franklin School Fund, a bequest in the will of Rufus Webb, for many years a writing master in the Franklin School, who died in 1827, to furnish free text-books for the use of indigent scholars belonging to said school. As the city under the law now furnishes free text-books to all scholars, this income is paid to the master of the school to furnish supplementary books, etc., as the school may need	2,000 00
	\$136,119 46

SECTION 11. INCOME.

The state pays almost the entire cost of the Horace Mann School, and one-half the cost of the independent industrial schools. Substantial sums are paid by or on behalf of nonresident pupils in the Normal and other schools. There are receipts from the sale of badges to licensed minors; of books and supplies; and of materials made at the Trade School for Girls. The schools also receive each year the fees for dog licenses, less such amounts as may be paid by the city for damages done by dogs; the net receipts from this source last year were \$25,919.34. These and other incidental receipts, which vary in character and amount each year, make up the items of income which must be deducted from the gross maintenance cost of the schools to ascertain the net amount which is paid by the taxpayers. In 1897-98 they amounted to \$42,287.16; in 1905-06 to \$57,246.54; and in 1910-11 to \$78,237.23.

SECTION 12. THE COST OF THE CHANGE FROM NINE TO EIGHT GRADES.

The change from nine to eight grades in the elementary schools, which was made in 1906, caused much adverse criticism; and the statement was seriously made at one of the public hearings held by the Finance Commission

that "the figures show that the abolishing of the ninth grade cost the city \$240,000 a year." This is clearly an over-statement. In the year of the change the total increase over the previous year in maintenance cost of all kinds of all the schools, day and evening, was \$66,656.56, and in the following year, \$105,921.83; and in no year, outside of pensions and expenses required by law, has the increase reached the figures named. Only a small part of the total increase can be attributed to the change in the number of grades. It is extremely doubtful whether there was any substantial expense involved in the change. A comparison of average cost which includes all grades is not quite fair. The true comparison should be between the cost of the highest grade in the elementary and the lowest grade in the high schools, which are the only grades affected by the change, and here the difference will be found not to be very great. The teachers of the ninth grade were the highest paid of elementary teachers, and generally on the maximum salaries, while the teachers of the first grade in the Latin and high schools are on the lower salaries, and generally near the minimum.

One reason for the change was the desire to facilitate the progress of capable children through the schools. A child of average intelligence can do the required work in eight years, and it is a waste of time and money to hold back such a child an extra year. The system of nine grades was a mere survival of the separation between the primary and grammar grades which so long existed in Boston. There were three primary grades and six grammar grades, which together made nine; in many minds there thus grew up something almost sacred about the number nine, and anyone who advocated a change was regarded as an iconoclast, notwithstanding that eight is the standard number of grades in most school systems. The change was recommended in 1900 by a former superintendent, who said (School Document No. 4 of 1900, page 36): "Boston stands almost alone among the large cities of the country in

maintaining nine grades below the high school." It is of course possible that the same result might have been achieved in a more economical and perhaps better way by retaining the ninth and making it a more advanced grade, preparatory to the high schools; but this is an administrative detail and even those who advocate it have no desire to return to the nine grades in their old form. In the opinion of the Finance Commission any increased expense resulting from the change has been justified by the enlarged opportunities for high school education.

Table II.

Cost of Boston Schools for Fourteen Years.

	1897-98.	1898-99.	1899-1900
(A) SALARIES.			
1. Instructors.....	\$1,817,218 00	\$1,963,255 18	\$2,063,611
2. Physical education instructors.....	—	—	—
3. Officers.....	69,385 00	70,645 28	68,945
4. Janitors, engineers, matrons.....	139,220 29	147,777 48	150,737
5. Nurses.....	—	—	—
6. Kindergarten maids.....	1,897 95	2,136 70	2,180
Total salaries.....	\$2,027,721 24	\$2,183,814 64	\$2,285,474
(B) TEACHERS' PENSIONS.....			
	—	—	—
(C) FUEL, LIGHT AND POWER.			
1. Coal.....	\$74,306 75	\$75,946 75	\$69,175
2. Wood.....	2,739 45	2,792 57	2,986
3. Gas.....	8,694 51	10,757 34	12,528
4. Electricity (light)*.....	—	—	—
5. Electricity (power).....	—	—	—
Total fuel, etc.....	\$85,740 71	\$89,496 66	\$84,690
(D) WATER.....			
	\$10,275 58	\$13,439 20	\$14,275
(E) SUPPLIES AND INCIDENTALS.			
1. Books.....	\$50,509 73	\$54,325 53	\$58,184
2. Printing.....	7,350 37	9,110 79	6,402
3. Miscellaneous items.....	71,003 57	72,759 91	81,719
Total supplies, etc.....	\$128,863 67	\$136,196 23	\$146,306
(F) REPAIRS, RENTS, ETC.....			
	\$229,941 27	\$249,973 69	\$282,708
(G) TRUST FUNDS.....			
	\$1,904 30	\$3,050 69	\$3,241
Total cost of maintenance.....	\$2,484,446 77	\$2,675,971 11	\$2,816,697
Income from nonresidents, trust funds, etc.....	42,287 16	42,210 35	45,681
Net cost of maintenance.....	\$2,442,159 61	\$2,633,760 76	\$2,771,015
Increase from previous year.....	—	\$191,601 15	\$137,254
Amount spent for new buildings, land, etc.....	\$930,716 40	\$626,515 93	\$822,107

* Included in charge for gas until 1905-06.

Table II.

Cost of Boston Schools for Fourteen Years.

1900-01.	1901-02.	1902-03.	1903-04.
\$2,178,597 72	\$2,293,776 36	\$2,426,850 45	\$2,529,177 79
—	—	—	—
83,168 88	89,531 75	80,827 21	82,342 82
157,385 45	171,791 83	190,506 93	196,917 44
—	—	—	—
2,600 25	3,082 75	4,484 90	7,562 00
\$2,421,752 30	\$2,558,182 69	\$2,702,669 49	\$2,816,000 05
—	—	—	—
\$75,675 39	\$89,392 55	\$66,431 80	\$179,016 40
2,973 81	3,112 41	7,047 04	6,316 53
13,484 15	14,132 82	20,003 65	26,685 70
—	—	—	—
—	—	2,912 12	2,644 74
\$92,133 35	\$106,637 78	\$96,394 61	\$214,663 37
\$4,394 66	*	—	—
\$58,806 61	\$66,858 61	\$74,777 17	\$39,898 40
7,512 55	10,379 87	11,774 85	13,051 15
91,499 23	94,748 39	112,176 32	106,552 59
\$157,818 39	\$171,986 87	\$198,728 34	\$159,502 14
\$299,248 46	\$329,590 45	\$366,800 00	\$364,133 00
\$1,935 29	\$2,791 81	\$4,175 78	\$3,812 27
\$2,977,282 45	\$3,169,189 60	\$3,368,768 22	\$3,558,110 83
48,455 07	45,998 80	50,030 04	47,962 82
\$2,928,827 38	\$3,123,190 80	\$3,318,738 18	\$3,510,148 01
\$157,811 65	\$194,363 42	\$195,547 38	\$191,409 83
\$737,183 81	\$838,074 64	\$945,089 34	\$1,440,655 31

* Not charged for since 1900.

Table II.—*Concluded.**Cost of Boston Schools for Fourteen Years.*

	1904-05.	1905-06.	1906-07.
(A) SALARIES.			
1. Instructors.....	\$2,631,358 47	\$2,677,000 56	\$2,812,391
2. Physical education instructors.....	—	—	—
3. Officers.....	81,923 58	83,572 07	86,929
4. Janitors, engineers, matrons.....	212,423 76	222,733 62	227,268
5. Nurses.....	—	—	—
6. Kindergarten maids.....	8,448 00	8,993 00	8,923
Total salaries.....	\$2,934,153 81	\$2,992,299 25	\$3,135,512
(B) TEACHERS' PENSIONS.....	—	—	—
(C) FUEL, LIGHT AND POWER.			
1. Coal.....	\$123,870 48	\$130,126 12	\$102,330
2. Wood.....	4,051 15	4,480 52	3,944
3. Gas.....	28,290 46	8,642 74	8,005
4. Electricity (light)*.....	—	16,655 58	18,319
5. Electricity (power).....	2,952 56	3,398 57	2,974
Total fuel, etc.....	\$159,164 65	\$163,303 53	\$135,575
(D) WATER †.....	—	—	—
(E) SUPPLIES AND INCIDENTALS.			
1. Books.....	\$41,975 48	\$53,113 73	\$56,700
2. Printing.....	11,311 14	12,558 52	10,019
3. Miscellaneous items.....	116,828 53	115,653 35	113,687
Total supplies, etc.....	\$170,115 15	\$181,325 60	\$180,408
(F) REPAIRS, RENTS, ETC.....	\$357,305 73	\$336,700 00	\$288,100
(G) TRUST FUNDS.....	\$2,644 10	\$4,187 79	\$4,050
Total cost of maintenance.....	\$3,623,383 44	\$3,677,816 17	\$3,743,646
Income from nonresidents, trust funds, etc.....	57,213 81	57,246 54	56,420
Net cost of maintenance.....	\$3,566,169 63	\$3,620,569 63	\$3,687,226
Increase from previous year.....	\$56,021 62	\$54,400 00	\$66,656
Amount spent for new buildings, land, etc.....	\$2,114,851 23	\$1,033,829 17	\$716,482

Total amount expended in thirteen years for land and new buildings, \$12,718,049.40

* Included in charge for gas until 1905-06.

† Not charged for since 1900

Table II.—*Concluded.*

Cost of Boston Schools for Fourteen Years.

1907-08.	1908-09.	1909-10.	1910-11.	Increase 1910-11 over 1897-98.
\$2,818,359 95	\$2,898,597 39	\$3,030,402 01	\$3,166,799 10	\$1,349,581 10
15,592 00	39,271 59	48,907 85	51,593 78	51,593 78
100,453 26	103,824 56	103,429 73	106,730 54	37,345 54
231,866 49	248,449 54	255,981 09	255,196 92	115,976 63
4,014 13	20,801 19	24,427 60	26,476 55	26,476 55
8,133 50	7,633 50	6,658 40	6,300 65	4,402 70
\$3,178,419 33	\$3,318,577 77	\$3,469,806 68	\$3,613,097 54	\$1,585,376 30
—	\$1,678 50	\$127,256 20	\$66,194 65	\$66,194 65
\$119,581 61	\$105,148 07	\$113,826 06	\$123,235 23	\$48,928 48
4,289 90	3,865 76	3,444 08	2,800 83	61 38
6,092 44	6,067 76	5,636 85	5,463 83	—
16,057 78	15,564 16	21,246 15	22,314 35	22,716 20
2,844 92	3,375 19	5,834 53	3,632 53	—
\$148,866 65	\$134,020 94	\$149,987 67	\$157,446 77	\$71,706 06
—	—	—	—	\$10,275 58*
\$61,554 01	\$42,572 85	\$71,513 18	\$65,121 14	\$14,611 41
10,195 18	10,996 40	9,813 07	13,281 41	5,931 04
115,510 07	117,358 02	145,148 63	146,290 80	75,287 23
\$187,259 26	\$170,927 27	\$226,474 88	\$224,693 35	\$95,829 68
\$330,300 00	\$333,500 00	\$342,975 30	\$358,500 00	\$128,558 73
\$2,602 66	\$2,887 24	\$2,955 47	\$7,522 10	\$5,617 80
\$3,847,447 90	\$3,961,591 72	\$4,319,456 20	\$4,427,454 41	\$1,943,007 64
54,299 88	66,746 83	71,319 47	78,237 23	35,950 07
\$3,793,148 02	\$3,894,844 89	\$4,248,136 73	\$4,349,217 18	\$1,907,057 57
\$105,921 83	\$101,696 87	\$353,291 84	\$101,080 45	—
\$841,905 04	\$771,019 50	\$795,402 00	\$1,034,933 29	—

* Decrease.

PART IV. COMPARISON WITH OTHER CITIES.

1. INTRODUCTORY.

In the belief that a study of the administration of Boston's public schools should include a comparison of its school expenditures with those of other cities, the Finance Commission, on July 7, 1910, engaged Mr. John Koren to collect and tabulate the essential data for this purpose. A comparison of three years of school administration in the leading cities of the United States was first intended, but it was soon found to be practically impossible to extend the inquiry over more than one year. The school authorities either would not, or could not, furnish the data for a longer period; in fact, it was only by the most persistent endeavors that the data for even one year were finally obtained. This is not to be wondered at in view of the scope of the investigation and the great amount of unpaid labor which the busy school officials of other cities were asked to perform. Though the information received from the various cities is not complete, it is all that could be expected, and the Finance Commission is sincerely grateful for all the assistance it has received.

It was not possible to obtain statistics for the school year which had just closed (1910), as the reports were not printed and in many cases the data had not been collected and tabulated by the local authorities. There was nothing else to do, therefore, but to select the previous school year (1909) for investigation.

Mr. Koren submitted his report to the Finance Commission on July 18, 1911, about a year after the work was begun, and he states that the many difficulties of the task made it impossible to finish sooner.

In the first place, the necessary data could not be

found in the school reports of cities or states, in census reports or in any other publications. This is made clear by the following extract from Mr. Koren's report:

"The study was undertaken primarily for the purpose of ascertaining how expenditures for public school instruction in Boston compare with those in other cities. The answer is not to be found in any existing publications. A comparative study of school reports will not disclose the facts. In their present form these reports provide but a very limited quantity of comparable data. Each school board follows its own system of financial and other exhibits. There is no common model. Some school boards give financial and general statistics with a wealth of detail; others content themselves with a meagre presentation, chiefly of totals. As a rule, little effort is made to analyze the facts and figures and show their relations. The terminology employed is so varied that it frequently bewilders, and nullifies attempts at classification of important items for the purpose of comparison. While there are school reports which no doubt fully serve all the requirements of local students of school finances, very many of them appear to be lacking even in this respect. And when the object is to contrast conditions elsewhere with those of a given city, they fail to meet the situation because of their dissimilarity in scope and methods of presentation. The somewhat chaotic status of school statistics generally is abundantly attested by the widespread movement to secure the adoption of a uniform system for all statistical exhibits.

Existing state and national reports of school expenditures do not provide a fact basis enabling one to make satisfactory comparisons between cities. The most authoritative and most widely quoted source of information about school expenditures in cities is the annual publication of the Bureau of the Census, under the title "Statistics of Cities." The exhibits therein contained of school finances, classified and shown in connection with municipal finances generally, are ample for

the purpose for which they are intended. To know the total and per capita cost of maintaining public schools, the total and per capita of receipts from subventions, grants, territory, etc., and the details of such totals in their various relations, is essential in a study of municipal finance. But it does not answer the question, whether the public school instruction in one city is more expensive than in another city, as that is a matter which is not settled by the simple process of contrasting per capita costs, but must be viewed in the light of the numerous conditions governing school expenditures."

In the second place, because of the impossibility of obtaining the necessary data from existing publications, the school officials had to be relied upon to answer a series of questions, framed for the purpose, of reducing the essential information to a common basis, and this method involved a great deal of time and labor, as is shown in the following extract from Mr. Koren's report:

"Even within the limited field of inquiry adopted, unexpected and extraordinary difficulties were met in collecting the required facts. The difference of methods of recording and classifying items of finance and school facts generally caused much perplexing labor. Not only is there a total lack of uniformity in classifying school statistics generally, but some distinctions of which one school system makes much may be wholly lacking in another. In order to insure conformity and thus comparability, the co-operating school boards had to do much more than copy totals from their books and reports. In some instances school authorities frankly confessed their inability to supply certain information; and because of the amount of work required to fill out the schedules submitted and the common scarcity of clerical help in many school boards, the inquiry has dragged out over a wholly unanticipated period of time. In several cases school boards finally found themselves unable to furnish all the desired information, and not a single schedule of financial statistics

was received that did not require amendations or explanations entailing voluminous correspondence and consuming much time."

The twenty cities which have furnished the data set forth in the tables hereto annexed are:— Boston, New York, Chicago, Philadelphia, St. Louis, Cleveland, Baltimore, Milwaukee, San Francisco, Washington, Minneapolis, Indianapolis, Providence, St. Paul, Worcester, Fall River, Lowell, Cambridge, Lynn and Springfield. Attempts were made to secure data from other cities, but the results were unsatisfactory. New Orleans, Cincinnati and Pittsburgh furnished no information. Buffalo responded, but the data were not used, as the average number of pupils attending the schools was not furnished. The figures given related only to the total enrollment, and were therefore not comparable with the cities which furnished attendance figures. The data obtained from Detroit were so meagre that they also were excluded. The attempt to secure data from the seven most populous Massachusetts cities, next to Boston, was fairly successful, as all except New Bedford responded. The commission would have had a wider basis for comparison if more cities had been included, but the twenty cities which furnished comparable data are fairly representative of the public school system in the United States in respect to population, to the kind of instruction furnished, and to the popular appreciation and support of public schools.

Before final conclusions are drawn from the statistical tables hereto annexed, a word should be said regarding the danger of reading such statistics without recognizing the inevitable lack of absolute comparability of certain items of school data. Though great pains have been taken to obtain comparable statistics, they are not always predicated upon absolutely the same basis. The various forms of school organizations, and the widely different systems of accounting, are the principal, but by no means the only reasons, which make it impossible to reduce all data to a uniform basis. One

source of danger has been avoided by excluding from the cost of the various public school systems such important but (as respects cost) widely fluctuating factors of school administration as the expenditures for land and buildings, rents of hired school accommodations, repairs, alterations, furniture and pensions. Hence the "cost of conducting schools" is intended herein to cover only the more comparable items of salaries of instructors, officers, janitors, matrons, medical inspectors and nurses, and the expenditures for fuel, light, water, power, supplies and incidentals; these various items being divided into two classes, designated "cost of instruction" and "cost of physical maintenance."

Another source of erroneous conclusions has been avoided by excluding from the tables the per capita cost of schools based on the total population of cities, as such per capita statements are extremely misleading since they ignore such important factors as the proportion to general population of school children to be provided for, and the distribution of pupils in the various grades of schools. As Mr. Koren points out:

"That a city which has a relatively small proportion of children in public schools as well as a relatively small number in the higher schools should escape with a lower cost per capita of population than a city in which these conditions are reversed is quite obvious."

Two other sources of possible error should be mentioned. The per capita cost based on the number of pupils in the schools, though more reliable than the per capita cost based on general population, is often misleading. As the costs per pupil are given in the annexed tables the importance of using them with great caution should be emphasized.

The per capita cost is computed by dividing the total cost of the school system by the total number of pupils in all schools, which is an unreliable medium of comparison as the difference in the cost per pupil in high, elementary and evening schools is so great that any material variation in the proportion of pupils in

each group of schools immediately affects any general per capita. This is shown by the following example:

City A.

10,000 high school pupils at \$80	\$800,000 00
90,000 elementary school pupils at \$30	2,700,000 00
10,000 evening school pupils at \$15	150,000 00
<hr/>	
Total 110,000 pupils	\$3,650,000 00
Per capita cost for the whole system	\$33 18

City B.

12,000 high school pupils at \$81	\$972,000 00
100,000 elementary school pupils at \$31	3,100,000 00
30,000 evening school pupils at \$16	480,000 00
<hr/>	
Total 142,000 pupils	\$4,552,000 00
Per capita cost for the whole system	\$32 06

City C.

20,000 high school pupils at \$79	\$1,580,000 00
100,000 elementary school pupils at \$29	2,900,000 00
15,000 evening school pupils at \$14	210,000 00
<hr/>	
Total 135,000 pupils	\$4,690,000 00
Per capita cost for the whole system	\$34 74

In city B the cost of every pupil in all three groups of schools is \$1 more than in the corresponding groups in city A, but the increase in number of pupils in the different groups is not proportionate. In other words, while the whole system has actually cost \$1 more per pupil in each group in city B than in city A, the total per capita cost is \$1.12 less in city B.

The cost per pupil in each group in city C is \$1 less than in city A, but owing largely to the increase in the number of high school pupils the total per capita cost is \$1.56 more in city C than in city A.

Finally, it should also be borne in mind that the figures used in the tables have been furnished by the school authorities of the various cities, and that the Finance Commission has been obliged to rely upon their accuracy without any practical means of checking up the figures independently, except in Boston where they have been

verified by the school officials who were examined by the Finance Commission for this purpose. The figures used in the tables are not invariably in agreement with the school reports, owing to the attempt to reduce the figures of cost and other data in the twenty cities to a uniform basis of classification. In all cases the school authorities of the different cities have assumed the responsibility for the accuracy of all the statistics utilized in this report.

2. THE STATISTICAL TABLES.

The study of the comparative costs of public schools will be helped by a preliminary examination of such school factors as are shown in Tables I. to V., inclusive. The remaining tables, VI. to XIII., inclusive, are devoted to a presentation of the cost of conducting the schools. Boston's relative position in all these tables will be emphasized, as the purpose of the investigation is to find out how Boston's school expenditures compare with those of other cities.

TABLES I. AND II.

The first table contains the estimated population in the year 1909, the total enrollment of pupils, the enrollment in day, evening and special schools and the number enrolled to each 100,000 of the population. The second shows the compulsory school age and the minimum age at admission to elementary schools and kindergartens, the length of the school year and the number of elementary grades. These two tables are important chiefly as showing popular appreciation of free education, for they show a high enrollment and indicate a good enforcement of the school laws. The population and enrollment figures also serve as bases for further tables which show the actual attendance and which have a direct bearing on the question of the cost of schools.

In the ten cities exceeding 300,000 in population

(hereinafter called the "first group" *) the total enrollment per 100,000 of population ranges from 20,297 in Boston to 11,516 in Philadelphia. In the ten cities with less than 300,000 population (hereinafter called the "second group" †) the rate ranges from 20,927 in Springfield to 13,289 in St. Paul. Only two of the twenty cities [both in Massachusetts, namely, Springfield (20,927) and Cambridge (20,358)] lead Boston (20,297) in the rate of enrollment.

Considering day and night schools separately, Boston is again found to lead the first group of cities, the rate ranging from 17,009 (Boston) to 10,980 (Philadelphia) for day schools and 3,264 (Boston) to 479 (Philadelphia) for night schools. In the second group of cities the range is from 17,622 (Springfield) to 12,907 (Lowell) in day schools and from 3,751 (Lowell) to 190 (Indianapolis) in night schools. As to both day and night schools, Boston is exceeded by two Massachusetts cities, Springfield having 17,622 and Cambridge 17,558, as compared with Boston's 17,009, in day schools; and Lowell having 3,751 and Springfield 3,305, as against Boston's 3,264, in night schools.

The school departments differ so widely in their classification of special schools that no valid comparisons can be made of the enrollment figures of such schools. In some cities, such as St. Louis, San Francisco, Washington and Indianapolis, schools which elsewhere would be called special schools are combined with the regular schools and hence the separate figures are not obtainable. In other cities where separate figures are given the differences are so great as to suggest the widest divergence in classification. Thus, New York appears to have in special day schools only 6 per 100,000 of population, while Cleveland appears to have 162, Chicago 190 and Providence 218. Because of the variety of classifications and the resulting impossibility

* Boston, New York, Chicago, Philadelphia, St. Louis, Cleveland, Baltimore, Milwaukee, San Francisco, Washington.

† Minneapolis, Indianapolis, Providence, St. Paul, Worcester, Fall River, Lowell, Cambridge, Lynn, Springfield.

of making just comparisons of the special schools in the different cities these schools will not be commented upon hereinafter in the analysis of the tables.

TABLES III.A, III.B, IV. AND V.

The next group of tables, III.A, III.B, IV. and V., deals with the distribution of pupils and the average quota of pupils per teacher in the various groups of schools. The ratios of pupils to population are based on the average number of pupils belonging in the various groups of schools, and not upon the enrollment figures, as was the case in the first table. Therefore a better idea is conveyed of the actual attendance and consequently of the real burden of the various school systems. To what extent the various cities maintain the secondary schools, which are more expensive than the elementary schools, and how far such maintenance accounts for the high total cost of conducting all schools in some cities as compared with others, are questions upon which these tables shed considerable light.

III.A, Day Schools.

This table shows the average number of pupils belonging in day schools and their ratio to each 100,000 of population. Only three classes of day schools, high, elementary and kindergarten, afford comparisons of value. Special schools, as already stated, will be eliminated, and as many cities maintain no normal schools they also will be eliminated.

High Schools.—In the first group of cities the ratio of the average number of pupils belonging in the high schools to each 100,000 of population ranges from 1,483 in Boston to 607 in Philadelphia. In this expensive grade of schools only one city of the first group, Washington (1,290), approaches Boston. None of the rest, except Cleveland (854) and Milwaukee (852), furnish even half as large a proportion as Boston. Chicago and St. Louis, both frequently compared with

Boston as to total per capita school costs, furnish only 663 and 652 high school pupils per 100,000 of population respectively; in both cases less than 45 per cent of Boston's proportion. In other words, Boston's high school pupils, per 100,000 of population, outnumber those of Chicago and St. Louis combined. Such exhibits as these show the grossly misleading character of comparisons based on cost per capita of general population.

In the second group of cities the number per 100,000 of population ranges from 1,733 in Minneapolis to 683 in Fall River; two Massachusetts cities, Springfield (1,692) and Cambridge (1,602) standing next in rank to Minneapolis. Only three of the twenty cities exceed Boston, namely, Minneapolis, which maintains no evening high schools and whose large ratio of pupils in day high schools is thus largely accounted for, and two smaller and therefore less comparable cities in Massachusetts.

Elementary Schools.— In the first group of cities the ratio of average number of pupils belonging varies from 12,722 in New York to 8,818 in Milwaukee, Boston being a close second to New York, with 12,564 per 100,000. In the second group the ratio ranges from 13,206 in Cambridge to 9,342 in St. Paul. Only two of the twenty cities in both groups, New York and Cambridge, have a larger proportion of elementary pupils to total population than Boston.

Kindergartens.— This is a comparatively unimportant branch, as the number of kindergarten pupils is but a small part of the total school population. In the first group of cities the rate per 100,000 of population ranges from 1,096 in Milwaukee to 14 in San Francisco. St. Louis has 1,045. Cleveland, with 880, and Boston, with 849, rank next to St. Louis. In the second group St. Paul leads with 1,164, Springfield and Cambridge standing next with 780 and 771 respectively, and Fall River, with 116, being the lowest.

Table III.B, Evening Schools.

The average number of pupils belonging and the ratio to general population are given as to high, elementary and special schools. The first two only will be considered, the third being excluded from the comparisons for reasons already stated.

Evening High Schools.—In the first group of cities Boston stands first with 636 pupils to each 100,000 of population, its nearest competitor, Cleveland, having 337, or a little over one-half as many; and Washington, with 63, stands the lowest. In the second group the ratio runs from 636 in Lowell to 79 in St. Paul. Boston's ratio of evening high school pupils to general population is equal to Lowell's, but it exceeds all the other cities in both groups.

Evening Elementary Schools.—Boston leads the first group of cities with 1,099, New York being next with 977, and Baltimore is last with 323. In the second group Lowell is first with 1,566, Fall River next with 1,303, and Indianapolis with 92, is last. Leaving out Cambridge, Boston is surpassed by only two of all the cities. Cambridge cannot be compared with the other cities either as to high or elementary evening schools, as in Cambridge the average number of pupils belonging in evening elementary schools is combined with that of evening high schools; but it is worthy of note that the ratio of pupils in high and elementary evening schools combined to each 100,000 of population is 2,543 in Cambridge, which is considerably higher than that of any other city in either group.

TABLE IV.—NUMBER AND PERCENTAGE OF PUPILS IN GROUPS OF DAY SCHOOLS.

This table throws more light on the differences in the costs of school systems in various cities than any of the preceding tables, as it deals not only with the total number of pupils in all day schools but also shows

the percentage each group of day schools bears to the whole. It is useful, of course, to know the population in a given city, the number of pupils enrolled, the ratio of pupils to population, and the average attendance in the schools, but none of these factors is so essential to the study of the cost of a school system as the knowledge of the extent to which different grades of schools of varying degrees of expensiveness are provided. It will be found to be true, generally speaking, that if one school system provides for a much greater proportion of high school pupils than another it will be costlier to maintain, but less costly if the proportion of elementary school pupils is greater.

For reasons already given the normal and special schools will not be considered and only the high, elementary and kindergarten schools will be compared.

High Schools.—In the first group of cities Boston shows the largest percentage of pupils in high schools, 9.92; Washington and Milwaukee following with 8.97 and 7.87 per cent, respectively; then come San Francisco, 6.97; Cleveland, 6.82; Baltimore, 6.16; St. Louis, 6.12; Chicago, 5.90; Philadelphia, 5.25; while New York, with only 4.81 per cent, is last. This means that in Boston approximately one of every ten pupils is in the high schools. In New York, which is at the foot of the list, there is only one in every twenty. In Chicago and St. Louis, which, as already stated, are often compared with Boston as to per capita costs, approximately only one pupil in seventeen and one in sixteen, respectively, are in the high schools; but this fact is usually ignored by the critics of Boston schools who are accustomed to make comparisons of per capita costs. The higher percentage of pupils attending the Boston high schools goes far to explain the high total per capita cost of Boston's schools as compared with some of the larger cities in the United States.

In the second group of cities the percentage of pupils in high schools ranges from 12.78 in Minneapolis to

5.50 in Fall River. Besides Minneapolis and Indianapolis (10.32), whose larger percentages are partly accounted for by the fact that they, unlike Boston, maintain no evening high schools, there are four cities (all in Massachusetts) which maintain evening high schools and whose percentage of pupils in day high schools is greater than Boston's (9.92), namely, Springfield, Worcester, Lynn and Lowell, with 11.29, 10.35, 10.32 and 9.94, respectively. Cambridge has 10.28 per cent in the day high schools, but as the attendance in the evening high schools is not given, no fair comparison with Cambridge can be made.

Elementary Schools.—In the first group of cities the percentage of pupils in elementary schools ranges from 92.65 in San Francisco to 81.50 in Milwaukee. Boston, with 84.03 per cent, has to provide for a smaller proportion of pupils in this relatively cheaper grade of schools than any of the following seven cities, namely, San Francisco, 92.65; Baltimore, 92.08; New York, 91.17; Chicago, 89.21; Philadelphia, 88.59; Washington, 86.25, and Cleveland, 84.53 per cent.

In the second group of cities the percentage in question varies from 90.94 per cent in Fall River to 80.61 in St. Paul. Boston has a smaller proportion of elementary pupils to provide for than any of the cities in this group, except St. Paul, which has 80.61, and Springfield, which has 83.49 per cent.

Kindergartens.—In the first group Milwaukee and St. Louis stand quite alone with percentages of 10.13 and 9.81, respectively, of kindergarten pupils. The next highest is Cleveland, with 7.04 per cent. Boston leads the remaining cities in this group with 5.68 per cent; the others have about 4 per cent except Baltimore, which has 1.33, and San Francisco, which has only about $\frac{1}{7}$ of 1 per cent. In the second group the percentages range from 10.03 in St. Paul to 3.79 in Lowell, the former being the only city with a higher percentage than Boston.

TABLE V.—NUMBER OF TEACHERS AND NUMBER OF PUPILS PER TEACHER IN DAY SCHOOLS.

The size of a class which a teacher has to instruct determines to a large extent the educational process of the schools as well as their cost. Large classes mean fewer teachers and less cost for teachers' salaries. Obviously a city which increases the number of teachers by reducing the quota of pupils per teacher will by so doing increase the expense of instruction, and *vice versa*.

High Schools.—The number of pupils per teacher, based on the average number of pupils belonging, ranges from 29 in Boston to 18 in Washington in the first group of cities; and from 33.6 in Lowell to 18.8 in Springfield in the second group. The financial disadvantage Boston labors under on account of its large ratio of high school pupils in comparison with other cities is partially offset by the relatively large size of its high school classes. Only one of the twenty cities exceeds Boston in the size of high school classes. As comparisons between Boston on the one hand and Chicago and St. Louis on the other hand have been made heretofore, it should be noted that there is relatively a larger number of high school teachers in each of these two cities than there is in Boston, as the average number of pupils per teacher is 25.9 in Chicago and 20.2 in St. Louis, while Boston has 29 pupils to each teacher.

Elementary Schools.—In the first group of cities the average number of pupils per teacher ranges from 44.8 in Chicago to 36.8 in Washington. Philadelphia with 44 is second on the list, and Boston, which is third with 43, is practically on the same level with New York, Cleveland, Milwaukee and St. Louis, which have 42.8, 42.3, 42 and 41.6, respectively.

In the second group the numbers range from 41 in Minneapolis to 33 in Fall River. Minneapolis, however, should not be compared with the other cities as the kindergartens are included with the elementary schools.

No city in the second group has as large an average number of elementary pupils per teacher as Boston.

Kindergartens.—In the first group the average number of pupils per teacher ranges from 54.8 in Cleveland to 16.2 in Washington, Boston with 26 being seventh on the list. In the second group the numbers vary from 44.2 in Springfield to 18.9 in Lowell, only two cities in this group, Springfield (44.2) and St. Paul (40.3), having larger classes than Boston.

COST OF CONDUCTING SCHOOLS.

The remaining tables deal with the "Cost of Conducting Schools," that term, as already explained, excluding such items as land and buildings, repairs, rents, furniture and pensions. The costs given in these tables apply only to two main groups of expenditures which are common to all school systems and which constitute the great bulk of all school expenditures, namely, salaries and physical maintenance, the first term including all the salaries for the kinds of service under consideration, and the second including the expenditures for light, water, fuel and power, books, supplies and incidentals.

TABLE VI.—PER CAPITA COST OF CONDUCTING PUBLIC SCHOOLS.

The total cost of salaries and physical maintenance are shown together with the average number of pupils belonging and the cost per pupil based thereon. While the total per capita cost of all pupils in the schools has already been shown to be a questionable standard at best, it is of interest when due allowance is made for the various elements of school administration which influence the per capita cost and which often explain the seeming extravagance of one city as compared with another. It has already been shown how the cost per pupil in each of three groups of schools in one city may be lower than the cost in each of the corresponding groups in another city while the total per capita cost

for all pupils is higher in the former city than in the latter; and this should be a sufficient caution to those who make comparisons of per capita costs.

In the first group the cost per pupil ranges from \$38.75 in San Francisco to \$24.49 in Baltimore. New York (\$36.87) is second to San Francisco, Boston is third with \$34.92 and Washington with \$34.85 is fourth. The high cost of San Francisco and New York as compared with other cities in this group cannot be accounted for by the proportion of high school pupils to the total number of pupils in the schools, as the figures in Table IV. have shown that other cities in the group have higher percentages of high school pupils. Therefore the higher cost must be explained largely by the high scale of salaries prevailing in these two cities. The high cost per pupil in Boston as compared with other cities in this group is chiefly accounted for by the larger percentage of high school pupils.

In the second group the cost varies from \$37.87 in Springfield to \$23.69 in Fall River. Springfield is the only city in this group which exceeds Boston's cost (\$34.92) and Indianapolis (\$34.31) is the only city which closely approaches it.

TABLE VII.—COST OF CONDUCTING SCHOOLS, CLASSIFIED BY AMOUNT AND PERCENTAGE OF SALARIES AND PHYSICAL MAINTENANCE.

The cost of conducting schools and the amount and per cent of salaries and physical maintenance are shown in this table. It throws little additional light on the variations in the per capita costs shown in the previous table. There is a remarkable similarity in the percentages of salaries to total costs. There are only two exceptional cases, San Francisco with the highest per cent of total cost devoted to salaries, 95.9 per cent, and Springfield with the lowest, 77.8 per cent. The range in the other eighteen cities is from 93.3 to 88.1, Boston occupying a middle position with 90.2 per cent. The great pressure upon pay rolls is indicated throughout

as in only two cities was as much as 11 per cent of the total cost of conducting schools spent for items other than salaries.

In eighteen of the twenty cities the cost of physical maintenance ranged from 11.9 to 6.7 per cent, and in eleven of these cities the variation is within even narrower limits, the cost ranging from 7.1 per cent in Indianapolis to 9.8 per cent in Boston.

TABLE VIII.—AMOUNT AND PERCENTAGE OF SALARIES CLASSIFIED ACCORDING TO SERVICE.

This table, with its sixteen footnotes, illustrates the difficulty which was experienced in getting school officials in the various cities to depart from their customary classification and to furnish information on a basis which makes possible comparisons of some value. Three columns in this table should be dismissed with brief comment. The column bearing the title "medical inspection and nursing" is of itself of little if any value for purposes of comparison, as in practically all of these cities such expenses are paid either in whole or in part by the Board of Health. Likewise the column entitled "all others" is of no practical value as it consists principally of blanks. The column entitled "janitors, matrons and caretakers" invites few comparisons owing to the differences in the requirements of the various cities. Five cities spend a large percentage of the total outlay on this item, namely, Lowell, 13; Fall River, 12.2; Cleveland, 11.7; Chicago, 9.8, and Cambridge, 9.1 per cent. The other fifteen cities range from 8.1 to 4.3 per cent, Boston occupying a middle position with 6.6 per cent.

The column showing the percentages of the salary cost of administration and supervision should be used with caution as it is difficult to find any two school officials who agree as to where the dividing line should be drawn between administration and supervision charges. The cause of the wide variations in the percentages must be sought in the different classifications of these charges. Otherwise one cannot account for the .6 of 1 per cent

for administration in Washington as against 7.3 per cent in Baltimore; nor for the 4.3 per cent for supervision in the former city and only .8 of 1 per cent in the latter; nor for a cost of 3 per cent for administration and supervision combined in New York as against 9.5 in Minneapolis, 8.1 in Baltimore and in Indianapolis, and 6.3 per cent in St. Louis. Moreover, the high combined charges of administration and supervision in some of these cities suggest that salaries have been charged to one or the other of these items which in other cities would have been charged to instruction. This consideration affects somewhat the value of the column entitled "Instruction."

SALARY COST OF ADMINISTRATION, SUPERVISION AND
INSTRUCTION.

The percentage of the total cost which is paid for administration ranges from 7.3 per cent in Baltimore to .6 of 1 per cent in Washington. Two cities pay more than Boston (2.7), namely, St. Louis 3.7 and Baltimore 7.3 per cent.

The cost of supervision varies from 7.8 per cent in Minneapolis to .8 of 1 per cent in Baltimore. Boston pays 1.4 per cent, the same percentage as Providence and Lynn, but less than nine of the other seventeen cities.

The cost of instruction ranges from 88.3 per cent in San Francisco to 68.1 per cent in Indianapolis. Boston occupies a middle position with 78.9 per cent, which is a smaller proportion than is paid by six and a larger proportion than is paid by thirteen of the other nineteen cities.

TABLE IX.—PERCENTAGE OF COMBINED COST OF
SALARIES FOR ADMINISTRATION, SUPERVISION AND
INSTRUCTION TO TOTAL COST OF CONDUCTING
SCHOOLS.

This table has been constructed as a check upon possible errors in comparisons due to fundamental differences in the separate classifications of the items

of administration, supervision and instruction in the preceding table. It shows that the salary cost of these three items combined ranges from 91.7 per cent in San Francisco to 70.4 per cent in Springfield, Boston again occupying a middle position with 82.9 per cent. Boston pays less than seven and more than twelve of the twenty cities.

Analyzing by groups it appears that five cities in the first group pay a higher percentage of the total cost than Boston, their rank being as follows: San Francisco, 91.7; New York, 86.3; Milwaukee, 86.3; Philadelphia, 83.7, and Chicago, 83.5 per cent. Boston, with 82.9 per cent, pays only slightly more than the other cities in this group, Washington paying 81.9, St. Louis and Baltimore 81.8 each and Cleveland 81.6 per cent. In the second group only Worcester with 83.9 and Minneapolis with 83.4 per cent spend more than Boston on these items.

TABLE X.—DISTRIBUTION OF TEACHERS' SALARIES IN REGULAR DAY SCHOOLS BY AMOUNT AND PERCENTAGE.

High Schools.—The variation in the amounts paid for salaries in the high schools is striking, the percentages of the total amount of teachers' salaries ranging from 25.5 in Springfield to 12.4 in New York. Some cities spend on salaries of high school teachers a large proportion of the total paid for all teachers' salaries. Thus in Springfield, Lynn, Providence, Cambridge, Washington, Boston, Worcester, Minneapolis and Cleveland the amount spent for salaries of teachers in day high schools ranges from about one-quarter to about one-fifth of the entire amount spent for all regular day school teachers' salaries. In the other cities the amounts are comparatively small, five spending between 15 and 20 per cent, one paying 15 per cent and five less than 15 per cent. Boston's percentage (22.8) is high, being exceeded only by Washington (22.9) in the first group of cities and by only four cities of the second group,

namely, Springfield, 25.5; Lynn, 23.9; Providence, 23.8, and Cambridge, 23.6 per cent.

Fourteen of the twenty cities pay a smaller percentage than Boston.

It need hardly be stated to those who are interested in Boston's schools that the total costs are greatly influenced by the larger proportional attendance in the high schools, as shown in previous tables, and by the large proportional expenditure for the salaries of high school teachers, as shown in this table. The tendency of these factors to raise the per capita cost is illustrated in the following table:

CITIES.	Percentage of Day High School Attendance to Total Day School Attendance.	Percentage of Day High School Teachers' Salaries to Total Salaries of Teachers in All Regular Day Schools.	Total Cost per Pupil in All Schools.
Boston.....	9.92	22.8	\$34 92
Milwaukee.....	7.87	14.7	33 90
St. Louis.....	6.12	16.5	32 96
Cleveland.....	6.82	20.9	29 60
Chicago.....	5.90	14.1	29 25
Philadelphia.....	5.25	15.0	27 08
Baltimore.....	6.16	16.5	24 49

Thus it appears that the lower per capita costs of these cities, as compared with Boston, is accompanied in every instance by a lower proportional attendance in the high schools and a lower proportional payment for high school teachers' salaries.

Washington, with practically the same per capita cost (\$34.85) as Boston (\$34.92), has a smaller percentage of high school pupils (8.97) and practically the same percentage of cost for salaries of high school teachers (22.9), and therefore may be said to illustrate the same tendency. In New York and San Francisco, however, the high per capita costs, as compared with Boston,

cannot be thus accounted for, as in each of these cities the proportion of high school pupils and of high school teachers' salaries is smaller than in Boston. The considerably higher cost of instruction per pupil in both high and elementary schools in San Francisco and New York, as compared with Boston, largely accounts for the higher per capita cost of pupils in all schools in these two cities.

Elementary Schools.—The variation in the percentages paid for elementary teachers' salaries is less marked than in the case of the high schools. The percentages of salary expenditures for elementary teachers to the total salaries of teachers in all day schools range from 85.7 per cent to 68.9 per cent, the higher percentage being paid in Fall River, the lower in Washington. Boston, with 71.5 per cent, is number sixteen on the list, paying less than all other cities except Washington, Providence, Cambridge and Springfield.

Kindergartens.—The highest percentage paid by any city for kindergarten teachers' salaries is 8.2 (St. Louis) and the lowest is 1.1 (Fall River). Boston pays the same percentage as Springfield (4.6) and less than St. Louis (8.2), St. Paul (6.9), Washington (5.7), Cambridge (5.5) or Providence (with 5.2 per cent).

TABLE XI.—TOTAL AND PER CAPITA COSTS OF INSTRUCTION IN GROUPS OF DAY SCHOOLS.

This is an important table as it shows the per capita cost of instruction based on the average number of pupils belonging in the principal groups of schools. It affords a better standard of comparison than total per capita costs based either on the total population or the total number of pupils in the schools. It measures the cost of instruction per pupil by the actual number of pupils belonging in the different groups of schools and the amount of salaries paid to the teachers therein. It eliminates most of the items not common to all systems, and permits the making of comparisons which require

fewer qualifications than other standards which are frequently used. In considering the cost of instruction two principal factors, namely, the number of pupils per teacher in the different groups of schools and the size of the salaries paid to teachers in such schools, should always be taken into account; otherwise erroneous conclusions may be drawn in comparing costs in different cities.

The number of pupils per teacher is found in Table V., which has already been considered. The salary schedules of teachers cannot be presented, however, in their entirety, because of the lack of uniformity in the classification of the various teaching positions. Because of this defect in the salary schedules, Mr. Koren has advised the commission that the expense of their publication would not be warranted, but he believes it desirable to have presented in the commission's report certain parts of the salary schedules of different cities which seem to be on a fairly comparable basis. Consequently the references to salaries in the text of Mr. Koren's report, which apply to high and elementary schools and which include certain parts of the salary schedules, are printed below* for the information of those who desire to use them in checking up the per capita cost of instruction in the cities under consideration.

** Salaries in Day High Schools.*

"Close comparisons of salaries paid teachers in day high schools cannot be made throughout, partly for lack of definite data and partly for lack of uniformity in designating the various subordinate positions. In Boston principals receive a maximum of \$3,780 per annum, which is below the maximum paid in New York (\$5,000), Chicago (\$3,800), Philadelphia (\$4,500) and St. Louis (\$4,000). The minimum, however, is lower in Chicago than in Boston. Heads of departments, on the other hand, appear to be more liberally provided for in Boston than are the incumbents of positions of this grade in any of the other cities, except San Francisco (females), the maximum rate also being higher than that elsewhere paid assistant principals. Junior masters are better paid in Boston than in Philadelphia, for example, but few school systems designate any grade of teachers by this name. The general teaching staff—instructors, assistants, etc.—appears to be better paid in New York, Chicago and, as far as the minimum to female assistants is concerned, in San Francisco than in Boston. The nomenclature used in designating high school positions varies to an extent which makes further comparisons impossible."

Salaries in Day Elementary Schools.

"Special interest attaches to rates of compensation in elementary schools because of the number of teachers and others involved and the consequent large proportion of total

So far as cost is concerned it is not material whether the higher cost in a given city is due to relatively large salaries, or to a relatively large number of teachers, or to both, as the object of the present chapter is to afford

salaries paid for instruction in this group of schools. Confining attention to rates of salaries paid principals and the class room teachers, the following tables exhibit how the different cities rank."

Salaries of Principals of Elementary Schools.

CITY.	MALE.		FEMALE.	
	Minimum.	Maximum.	Minimum.	Maximum.
New York.....	\$2,750 00	\$3,500 00	\$1,750 00	\$2,500 00
Boston.....	2,580 00	3,180 00	2,580 00	3,180 00
St. Louis.....	* 700 00	* 3,000 00	—	—
Chicago.....	* 1,800 00	* 2,800 00	—	—
Philadelphia.....	1,040 00	2,500 00	1,040 00	2,000 00
Providence.....	1,500 00	2,500 00	—	—
Worcester.....	575 00	2,500 00	500 00	1,400 00
San Francisco.....	1,320 00	2,460 00	1,320 00	2,460 00
Milwaukee.....	1,350 00	2,400 00	1,350 00	2,400 00
Minneapolis.....	* 1,050 00	* 2,300 00	—	—
Baltimore.....	1,500 00	2,000 00	2,000 00	2,000 00
Lowell.....	* 675 00	* 2,000 00	—	—
Springfield.....	* 750 00	* 2,000 00	—	—
St. Paul.....	1,050 00	1,600 00	1,050 00	1,600 00
Indianapolis.....	900 00	1,200 00	825 00	1,200 00
Lynn.....	1,500 00	2,000 00	1,400 00	1,400 00

* Sex not stated.

Salaries of Class Room Teachers in Elementary Schools.

CITY.	MALE.		FEMALE.	
	Minimum.	Maximum.	Minimum.	Maximum.
New York.....	\$900 00	\$2,440 00	\$600 00	\$1,440 00
Philadelphia.....	520 00	1,300 00	520 00	920 00
Chicago.....	* 650 00	* 1,225 00	—	—
San Francisco.....	960 00	1,224 00	840 00	1,224 00
St. Louis.....	—	—	600 00	1,120 00
Cleveland.....	* 650 00	* 1,050 00	—	—
Milwaukee.....	600 00	1,020 00	600 00	1,020 00
Minneapolis.....	* 600 00	* 1,000 00	—	—
St. Paul.....	450 00	950 00	450 00	900 00
Boston.....	552 00	936 00	552 00	936 00
Baltimore.....	450 00	900 00	444 00	700 00
Springfield.....	* 500 00	† 850 00	500 00	† 850 00
Worcester.....	* 500 00	* 800 00	—	—
Indianapolis.....	—	750 00	400 00	850 00
Providence.....	* 500 00	* 750 00	—	—
Lowell.....	* 650 00	* 700 00	—	—
Lynn.....	* 400 00	* 700 00	—	—
Cambridge.....	* 450 00	—	—	—

* Sex not stated.

† By unanimous consent of Board, \$900.

"According to these tabulations Boston rates second in both minimum and maximum amount of salary paid principals of elementary schools. On the other hand, with respect to salaries paid class room teachers in elementary schools, Boston is tenth in rank measured by the maximum amount, and ninth in point of minimum salary, but the order of the cities is not the same. Philadelphia and St. Paul, for instance, pay a smaller minimum than Boston, while Lowell, with a lower maximum salary, has a high minimum rate."

a comparison of Boston schools with those of other cities, and not to attempt to decide whether teachers' salaries in Boston are too high, or the number of teachers excessive. In a preceding chapter of the commission's report these questions have been dealt with.

High Schools.—Proceeding with the analysis of Table XI., it will be observed that the cost of instruction per pupil in day high schools varies widely in different cities.

The highest cost in the twenty cities is in New York (\$76.48), and the lowest is in Fall River (\$33.31). In the first group of cities the rank is as follows: New York, \$76.48; San Francisco, \$76.26; Cleveland, \$74.64; St. Louis, \$69.10; Boston, \$66.82; Washington, \$66.71; Philadelphia, \$63.08; Chicago, \$53.50; Milwaukee, \$49.62, and Baltimore, \$49.47; Boston being fifth on the list, with Washington close behind.

No city in the second group exceeds Boston in cost. The high cost in Boston and in other cities of the first group, as compared with the second group, is due to the larger salaries paid by the larger cities contained in the first group.

Elementary Schools.—The variation here is also great. The highest cost in the twenty cities is in San Francisco (\$32.67), and the lowest is in Baltimore (\$16.20). The rank in the first group of cities is as follows: San Francisco, \$32.67; Milwaukee, \$27.88; New York, \$27.02; Boston, \$24.76; St. Louis, \$22.97; Cleveland, \$21.47; Chicago, \$21.17; Washington, \$20.88; Philadelphia, \$20.09, and Baltimore, \$16.20. The cost is greater in three and less in six of these cities than it is in Boston.

All the cities in the second group pay less for instruction per pupil than Boston; and the average cost in the second group of cities is much less than that of the first group, apparently owing to the lower salaries paid in the smaller cities. It should be emphasized again that a low cost of instruction in elementary schools reduces the per capita cost in all schools, as the total cost of elementary schools is much lower than

that of the high schools, while the number of elementary pupils greatly exceeds the number of high school pupils.

Before concluding the discussion of the variances in the cost of instruction in different cities, definite warning should be given that the higher cost of instruction in one city cannot always be accounted for satisfactorily by the fact that higher salaries are paid to teachers while the number of pupils per teacher is smaller in that city than in other cities where the cost of instruction is less. The statistical tables do not show why St. Louis, with higher maximum and minimum salaries of elementary school teachers than Boston, and with a larger number of teachers relatively to pay (judged by the average number of pupils per teacher), should have a per pupil cost of instruction of \$22.97 as against \$24.76 in Boston; nor why Cleveland, with higher maximum and minimum salaries, and apparently more teachers relatively than Boston, pays only \$21.47, or \$3.29 per pupil less than Boston. So, also, Philadelphia's cost of \$20.09 per pupil, as compared with \$24.76 in Boston, is not explained by the slightly smaller relative number of teachers, as the salaries are considerably higher than in Boston. No mere statistical exhibit can explain these seeming inconsistencies. The explanation may be found in the varying percentages of teachers receiving the maximum or minimum salaries in the different cities.

TABLE XII.—NUMBER AND SALARIES OF TEACHERS
IN SPECIAL DEPARTMENTS, AS COOKING, SEWING,
WOODWORKING, DRAWING, MUSIC, PHYSICAL TRAIN-
ING AND OTHERS.

This table has little bearing on the cost of conducting schools, the total amounts involved being quite insignificant in comparison with the combined expense of regular day high and day elementary schools which constitutes the great burden of our school systems. It is inserted only for whatever value it may appear to have to the special student of school organizations

and expenditures and may be dismissed herein with brief comment. It shows that many cities maintain a great variety of these special departments, presumably, as in Boston, in response to popular demands. Whether the maintenance of these departments in Boston is justified by results is a question which is not attempted to be answered here, but which has been considered in another part of this report. The principal item of cost is in the salaries of teachers; and the salaries paid in Boston, taken as a whole, are not high in comparison with other cities. Thus it appears that the average salaries in Boston are exceeded in the cooking classes by ten cities, in sewing by eleven, in wood-working and sloyd by six, in music by one, in physical training by eight, and in "all others" by three cities. The costs for drawing are not given for Boston, as they are combined with woodworking, sloyd, etc. (manual training).

TABLE XIII.—AMOUNT AND PER CENT DISTRIBUTION OF THE COST OF PHYSICAL MAINTENANCE CLASSIFIED BY KINDS OF SERVICE.

This is the last of the tables under consideration. It shows the total cost of physical maintenance which includes:

- 1, light, fuel, water and power;
- 2, books;
- 3, supplies for manual training, domestic art and science;
- 4, all other supplies and incidentals.

The distribution of the cost of physical maintenance among the various items which make it up is shown to be very uneven, and no mere statistical exhibit can account satisfactorily for the variations. The reasons in most cases must be of a purely local nature. Thus, the necessity for, and the cost of, light, fuel, and power, differ widely in different cities, owing to differences in the climate, the length of the day, and the distance from the source of supplies. Moreover, in some cities

light is furnished by the city without cost to the School Department; in other cities water is furnished free; and in one city (Chicago) apparently both are supplied without charge to the schools. Again, all cities do not furnish free text-books, Milwaukee being the exceptional case; and in the quantity of free text-books furnished by the other cities, in their cost, and in the length of their use in the schools, differences exist. Marked differences exist in the quantity and quality, and therefore in the cost, of the stationery, supplies and other incidentals that are furnished. In short, it is impossible to measure these cities in respect to physical maintenance by a common standard. The table is presented, but only as a statement of facts without any attempt to prove that any city is extravagant or the reverse in furnishing the items which make up the total cost of physical maintenance.

SUMMARY.

The chief points in the foregoing analysis may be summarized as follows:

1. *Ratio of Total Enrollment to Total City Population.*

In proportion to population Boston has a larger number of pupils enrolled in all schools than any city of the first group and larger than all, except two cities in the second group. Likewise, in day schools and night schools, taken separately, Boston leads all cities in the first group and all but two cities in the second group.

2. *Ratio of Average Number of Pupils Belonging to Total City Population.*

In proportion to population the average number of pupils belonging in day high schools in Boston is greater than that of any city in the first group, and is only exceeded by three in the second group. In day elementary schools only two cities, one city in each

group, have a larger ratio of pupils than Boston. In ratio of evening high school pupils Boston surpasses all cities in both groups, except Lowell, whose ratio is the same as that of Boston. In ratio of evening elementary school pupils Boston also excels all cities in the first group; and it leads all except two cities in the second group.

3. *Percentage of Pupils Belonging in the Two Principal Groups of Day Schools, High and Elementary.*

The number of pupils belonging in the day high schools of Boston, in proportion to the total number belonging in all its day schools, is relatively greater than that of any city in the first group. The percentage of high school pupils in Boston is 9.92; in two other cities of this group it is between 7 and 9 per cent, in four it is between 6 and 7 per cent, in two others it is between 5 and 6 per cent, and in one it is less than 5 per cent. Seven cities in the second group have a higher percentage of high school pupils than Boston, but only two of them, Minneapolis (12.78) and Springfield (11.29), have a materially higher percentage than Boston, the other five cities having between 9.94 and 10.35 per cent.

Boston, however, has in its elementary schools a smaller percentage of pupils than most cities, seven cities in the first group and nine in the second group showing a larger percentage.

4. *Cost of Instruction per Pupil in Day Schools, High and Elementary.*

The cost in Boston high schools is \$66.82 per pupil, which is less than that of four cities in the first group, namely, New York, \$76.48, San Francisco, \$76.26, Cleveland, \$74.64, and St. Louis, \$69.10. The cost in Washington and Philadelphia, \$66.71 and \$63.08, respectively, is not much less than in Boston. Three other cities in this group that show low costs are Chicago,

\$53.50, Milwaukee, \$49.62, and Baltimore, \$49.47. Boston, on the whole, compares very favorably with the cities in this group. The cost in the cities of the second group is lower than in Boston and lower generally than in the cities of the first group. This is due principally to the lower salaries paid in the smaller cities contained in the second group.

The cost of instruction per pupil in the elementary schools also averages higher in the cities of the first group than in those of the second group owing chiefly to the larger salaries paid in the first group. Boston occupies a fair position in the first group of cities, the cost being \$24.76 per pupil, as compared with \$32.67 in San Francisco, \$27.88 in Milwaukee and \$27.02 in New York. St. Louis ranks next to Boston with a cost of \$22.97, while in the other cities in this group the cost ranges from \$21.47 in Cleveland to \$16.20 in Baltimore. How much the diversity in costs is due to variations in the percentage of teachers receiving the minimum or the maximum salaries is a question which the available statistics do not answer.

5. *Per Capita Cost of Conducting Schools, Based on the Average Number of Pupils Belonging.*

The cost per pupil of \$34.92 in Boston is exceeded by that of two cities in the first group, namely, \$38.75 in San Francisco, and \$36.87 in New York. In Washington (\$34.85) the cost is practically the same as in Boston. Milwaukee (\$33.90) and St. Louis (\$32.96) follow Washington closely. Springfield (\$37.87) is the only city in the second group with a cost exceeding that of Boston.

The probability of error in drawing conclusions from statements of per capita costs has already been discussed fully in the introduction to Part IV. and in the analysis of Table No. VI. The danger of reliance upon one important factor which contributes largely

to make up the total per capita cost, namely, the relative number of teachers receiving maximum or minimum salaries, has also been mentioned in the analysis of Table XI., which deals with the cost of instruction per pupil.

The principal reasons for the high per capita cost in Boston, as compared with some of the other cities, seem to the Finance Commission to be the following:—

The fact that Boston has in its high schools a larger percentage of the total number of pupils than any city in the first group, and has in its elementary schools a smaller percentage of the total number of pupils than any city in the first group except two, and a smaller percentage of kindergarten pupils than these two cities, seems to account for the excess of Boston's total per capita cost of pupils in all schools wherever it appears to exceed that of other cities in this group. The larger percentage of high school pupils in Boston and the smaller percentage of elementary school pupils necessitates relatively larger expenditures for high schools (the more costly grade) and relatively smaller expenditures for elementary schools (a less costly grade). This is shown by the fact that Boston's percentage of high school salaries to total salaries in all day schools (22.8) is higher than that of any city except Washington (22.9) in the first group, and that Boston's percentage of elementary school salaries (71.5) is lower than that of any city in the first group, except Washington, where it is 68.9 per cent. Boston, all things considered, compares favorably as to per capita cost with any city in this group.

In the smaller, and therefore less comparable, cities contained in the second group, the cause of the low per capita costs, as compared with Boston's, is found either in their lower percentages of high school pupils, accompanied by higher percentages of elementary pupils, or in the lower salary allowances to teachers; or in both. It appears that only two of the ten cities

in this group have a materially greater percentage of high school pupils than Boston; that five have practically the same percentage as Boston; and that the other three have a smaller percentage. On the other hand, in the elementary schools, which are less expensive to maintain than high schools, Boston shows a smaller percentage of pupils than any city in this group, except Springfield and St. Paul. Moreover, the salaries paid in the smaller cities are generally lower than those paid in Boston. The relatively high per capita cost in Boston can certainly not be charged to extravagant salary allowances to its elementary school teachers in the year under consideration (1909) (although these salaries amounted to about 70 per cent of the total cost of salaries in all day schools), as these salaries were then almost universally regarded as too low and provision for their increase has since been made.

To summarize, in the opinion of the Finance Commission, nothing in the exhibit of per capita costs in either group of cities justifies the assumption that the Boston schools, as compared with such cities, are extravagantly administered.

6. *Cost of Salaries and Physical Maintenance and Their Percentage of the Total Cost of Conducting Schools.*

1. *Salaries.*—With respect to the total payments of salaries, including teachers, officers* and all other employees, Boston occupies a middle position, all salaries combined being 90.2 per cent of the total cost of conducting schools, and the salary expenditures in eighteen of the twenty cities ranging from 88.1 to 93.3 per cent. The two exceptional cities are San Francisco and Springfield, which spend for salaries 95.9 and 77.8 per cent, respectively, of the total cost of conducting schools.

The following table shows the lowest and the highest percentages of the total cost expended for school salaries in the twenty cities, as compared with Boston's percentage of expenditure for the same purpose.

Twenty Cities.

	Lowest Per Cent of Total Cost.	Highest Per Cent of Total Cost.	Boston's Per Cent of Total Cost.
Administration.....	.6	7.3	2.7
Supervision.....	.8	7.8	1.4
Instruction.....	68.1	88.3	78.9
Administration, supervision and in- struction combined.....	70.4	91.7	82.9
Medical inspection and nursing.....	.1	.7	.7
Janitors, matrons and caretakers.....	4.3	13.	6.6
All salaries.....	77.8	95.9	90.2

Thus, it appears that for only one item, the comparatively insignificant one of salaries for "medical inspection and nursing," does Boston pay the highest percentage of the total cost of conducting schools. In regard to all other items Boston occupies middle ground, its position being neither the highest nor the lowest in the expenditure for these various items, as compared with the other cities. There seems to be no justification in this exhibit for assuming that the salaries paid in Boston are excessive.

2. *Physical Maintenance.*—No satisfactory analysis of the widely different costs in the various cities is possible on account of the wide divergence with respect to climate, elements of population, the development of public interest in the schools, and the demand for, and the supply and cost of, the different items which make up the entire cost of physical maintenance. A mere statistical exhibit of the facts can do no more than show the percentage of the total cost of conducting schools which the twenty cities spend for physical maintenance, and the items included therein. Springfield leads the list with an expenditure of 22.2 per cent for physical maintenance, but this is an exceptional case. The range in the other nineteen cities is from 4.1 to 11.9 per cent. Boston's percentage (9.8) is equalled by one, is higher than twelve, and is lower than six cities. Nothing in these figures indicates extravagance in the Boston schools, as compared with other cities, in respect to the cost of physical maintenance.

Table I.

Number and Ratio of all Pupils Enrolled, Classified by Groups of Schools for Twenty Cities

CITY.	Estimated General Population.	TOTAL NUMBER ENROLLED IN							
		ALL PUBLIC SCHOOLS.		DAY SCHOOLS.		NIGHT SCHOOLS.		SPECIAL DAY SCHOOLS. ⁴	
		Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.
Boston.....	655,905	133,130	20,297	111,566	17,009	21,409	3,264	155	2
New York.....	4,564,792	850,628	18,634	730,058	15,993	120,290	2,635	280	
Chicago.....	2,214,490	317,881	14,354	292,216	13,195	21,454	969	4,211	19
Philadelphia.....	1,515,800	174,563	11,516	166,435	10,980	7,268	479	860	5
St. Louis.....	680,186	93,837	13,796	¹ 87,170	¹ 12,816	6,667	980	1	1
Cleveland.....	560,186	² 77,786	² 13,874	69,952	12,478	6,922	1,234	² 912	² 16
Baltimore.....	555,669	89,387	16,086	80,326	14,456	9,024	1,624	37	
Milwaukee †.....	373,857	53,476	14,303	48,636	13,009	4,697	1,256	143	3
San Francisco.....	355,000	48,509	13,664	¹ 43,164	¹ 12,159	5,345	1,505	1	1
Washington *.....	320,599	57,039	17,791	¹ 53,385	¹ 16,651	3,654	1,139	1	1
Minneapolis.....	293,521	47,298	16,114	45,642	15,550	1,656	564	—	—
Indianapolis.....	227,201	32,099	14,128	¹ 31,667	¹ 13,938	432	190	1	1
Providence †.....	224,326	39,386	17,556	33,791	15,062	5,105	2,276	490	21
St. Paul †.....	214,744	28,520	13,289	3	3	3	3	3	3
Worcester.....	146,417	25,425	17,365	22,645	15,466	2,780	1,899	—	—
Fall River.....	115,097	19,778	17,184	16,768	14,569	2,905	2,524	105	9
Lowell.....	104,013	17,326	16,658	13,424	12,907	3,902	3,751	—	—
Cambridge.....	99,274	20,211	20,358	17,431	17,558	2,780	2,800	—	—
Lynn.....	85,000	13,134	15,451	11,222	13,202	1,912	2,249	—	—
Springfield.....	84,938	17,775	20,927	14,968	17,622	2,807	3,305	—	—

* For year 1908.

† For year 1910; census figures.

¹ Day schools and special schools are combined.² Summer schools not included.³ Not separable. Evening schools only in part under city.⁴ Data as to special schools is of little value owing to the variety of classifications.

Table II.

Compulsory School Age, Minimum Age of Admission, Length of School Year and Number of Elementary Grades in Twenty Cities.

CITY.	Compulsory School Age.	MINIMUM AGE OF ADMISSION TO		LENGTH OF SCHOOL YEAR.		Number of Elementary Grades.
		Kindergarten.	Elementary.	DAY SCHOOLS.	EVENING SCHOOLS.	
				Number of Days.	Number of Evenings.	
Boston.....	7-14	3½	5	187	—	1-8
New York.....	8-16	5	6	2 191	{ High 120 Elem. 90 }	1-8
Chicago.....	7-14	4	6	192 to 200	—	1-8
Philadelphia.....	8-16	4	6	200	{ Elem. 62 Trade 138 }	1-8
St. Louis.....	8-14	6	7	195	3 90	1-8
Cleveland.....	8-14	5	6	{ Elem. 4 190 High 200 }	—	1-8
Baltimore.....	8-12	6	Over 6	190	—	1-8
Milwaukee.....	7-14	4	7	197	—	1-8
San Francisco.....	6-14	4	6	202	202	1-8
Washington.....	8-14	5	6	177	80	1-8
Minneapolis.....	8-18	5	6	183	51	1-8
Indianapolis.....	7-14	—	6	183	—	—
Providence.....	7-15	4½	6	186½	{ 100 (Technical 80) }	1-8
St. Paul.....	8-16	5	6	190	—	—
Worcester.....	7-14	5	6	191	6 110	1-9
Fall River.....	7-14	3½	5	193	43	1-9
Lowell.....	7-14	3½	5	183	5	1-9
Cambridge.....	7-14	3½	5	189	—	1-9
Lynn.....	7-14	—	5	183	71	1-9
Springfield.....	7-14	4	5	180½	{ High 67 Elem. 90 }	1-9

¹ Unless too few apply.

² In the borough of Brooklyn only 190 days.

³ One school in session but sixty nights.

⁴ Includes holidays and vacations.

⁵ Varies in different schools.

⁶ Two special evening schools had twenty evenings; one had forty.

Table III.A.
Average Number and Ratio of Pupils Belonging in Day Schools, Classified by Groups of Schools for Twenty Cities.

CITY.	NORMAL.		HIGH.		ELEMENTARY.		KINDERGARTENS.		SPECIAL.	
	AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.	
	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.
Boston.....	211	32	9,725	1,483	82,408	12,564	5,571	849	153	23
New York.....	1,993	44	30,762	674	1,582,999	112,772	23,569	516	1,104	12
Chicago.....	553	25	14,085	663	221,975	10,024	10,768	486	835	38
Philadelphia.....	491	32	9,206	607	155,302	10,245	7,574	499	2,745	180
St. Louis.....	145	21	4,436	652	60,230	8,855	7,109	1,045	532	79
Cleveland.....	216	39	4,787	854	59,285	10,574	4,935	880	912	163
Baltimore.....	227	40	3,814	686	56,976	10,253	826	148	35	6
Milwaukee.....	—	—	3,185	852	32,968	8,818	4,098	1,096	693	185
San Francisco.....	—	—	2,459	692	32,676	9,204	51	14	79	22
Washington.....	222	69	4,135	1,290	39,751	12,399	1,859	580	121	38
Minneapolis.....	—	—	5,086	1,733	234,705	211,824	2	2	—	—
Indianapolis.....	—	—	2,827	1,244	24,501	10,784	—	—	64	28
Providence.....	—	—	2,564	1,143	23,762	10,592	1,480	660	286	127
St. Paul.....	54	25	2,273	1,058	20,061	9,342	2,500	1,164	30	14
Worcester.....	—	—	2,066	1,411	17,131	11,700	760	519	—	—
Fall River.....	298	259	786	683	13,002	11,297	133	116	—	—
Lowell.....	—	—	1,141	1,097	9,900	9,519	435	418	—	—
Cambridge.....	—	—	1,590	1,602	13,110	13,206	765	771	—	—
Lynn.....	—	—	1,072	1,261	9,315	10,959	—	—	—	—
Springfield.....	—	—	1,437	1,692	10,606	12,487	663	780	—	—

Table III.B.

Average Number and Ratio of Pupils Belonging in Evening Schools Classified by Groups of Schools for Twenty Cities.

CITY.	HIGH.		ELEMENTARY.		SPECIAL.	
	AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.	
	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.
Boston.....	4,169	636	7,209	1,099	702	107
New York.....	13,581	298	44,586	977	—	—
Chicago.....	5,271	238	16,183	731	830	37
Philadelphia.....	3,914	258	6,461	426	598	39
St. Louis.....	1,111	163	2,604	383	—	—
Cleveland.....	1,891	337	5,031	898	—	—
Baltimore.....	1,017	183	1,793	323	491	88
Milwaukee.....	—	—	—	—	—	—
San Francisco.....	425	120	2,342	660	686	193
Washington.....	203	63	1,843	575	101	32
Minneapolis.....	—	—	1,656	564	—	—
Indianapolis.....	—	—	210	92	—	—
Providence.....	737	329	1,754	782	320	143
St. Paul.....	169	79	386	179	59	27
Worcester.....	617	421	968	661	531	363
Fall River.....	300	261	1,500	1,303	—	—
Lowell.....	662	636	1,629	1,566	258	249
Cambridge.....	1	—	^{1,2} 2,525	2,543	² 255	257
Lynn.....	190	223	783	921	165	194
Springfield.....	381	449	753	887	381	449

¹ High and elementary are combined.² Total enrollment.

Table IV.

Per Cent Distribution of Pupils in Day Schools Classified by Groups of Schools for Twenty Cities.

CITY.	Total Average Number of Pupils Belonging.	PER CENT OF PUPILS IN				
		Normal Schools.	High Schools.	Elementary Schools.	Kindergartens.	Special Schools.
Boston.....	98,068	0.21	9.92	84.03	5.68	0.16
New York.....	639,427	.31	4.81	91.17	3.69	1.02
Chicago.....	248,816	.22	5.90	89.21	4.33	.34
Philadelphia.....	175,318	.28	5.25	88.59	4.32	1.56
St. Louis.....	72,452	.20	6.12	83.13	9.81	.74
Cleveland.....	70,135	.31	6.82	84.53	7.04	1.30
Baltimore.....	61,878	.37	6.16	92.08	1.33	.06
Milwaukee.....	40,452	—	7.87	81.50	10.13	1.71
San Francisco.....	35,265	—	6.97	92.65	.15	.22
Washington.....	46,088	.48	8.97	86.25	4.04	.26
Minneapolis.....	39,791	—	12.78	87.22	²	—
Indianapolis.....	27,392	—	10.32	89.45	—	.23
Providence.....	28,092	—	9.13	84.58	5.27	1.02
St. Paul.....	24,888	.22	9.12	80.61	10.03	.12
Worcester.....	19,957	—	10.35	85.84	3.81	—
Fall River.....	14,297	2.08	5.50	90.94	.93	—
Lowell.....	11,476	—	9.94	86.27	3.79	—
Cambridge.....	15,465	—	10.28	84.77	4.95	—
Lynn.....	10,387	—	10.32	89.68	—	—
Springfield.....	12,706	—	11.29	83.49	5.22	—

¹ Truant included with elementary.² Kindergarten included with elementary.

Number of Teachers and Average Number of Pupils per Teacher in Day Schools Classified by Groups of Schools for Twenty Cities.

CITY.	NORMAL.			HIGH.			ELEMENTARY.			KINDERGARTENS.		
	Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.		Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.		Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.		Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.	
		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.
Boston.....	16	13	13	338	29	27	1,895	43	40	216	26	20
New York.....	90	22.1	21.8	1,180	26.1	23.3	113,614	142.8	138.7	743	31.7	25.5
Chicago.....	43	17.3	16.3	549	25.9	24.6	4,940	44.8	42.4	—	44.7	39.5
Philadelphia.....	—	15	14	—	23	22	—	44	39	—	35	27
St. Louis.....	11	13.2	12.9	220	20.2	19.4	1,447	41.6	38.8	256	27.8	24.6
Cleveland.....	8.5	25.4	22.4	241.6	19.8	17	1,400.7	42.3	36.5	90	54.8	31.3
Baltimore.....	8	28.3	27.7	168	22.6	21.4	1,514	37.6	33.3	43	19.2	15.6
Milwaukee.....	—	—	—	130	25	23	900	42	40	111	37	32
San Francisco.....	—	—	—	—	28+	27+	—	38+	37+	2	25.5	21
Washington.....	14	18.5	18.1	235	18	16.5	1,081	36.8	34.4	114	16.2	14.4
Minneapolis.....	—	—	—	196	25.9	25.1	2,846	241	239.3	2	2	2
Indianapolis.....	—	—	—	122	23.1	22.2	628	39	36.8	—	—	—
Providence.....	—	—	—	121	21.1	19.9	592	40.1	36.6	57	25.9	21.3
St. Paul.....	13	4.2	4.0	106	21.4	20.7	537	36	36	62	40.3	29
Worcester.....	—	—	—	92	22.5	21.6	500	34.3	31.2	34	22.3	18.5
Fall River.....	7	42.6	38.8	28	28	27.1	393	33	30.5	6	22.1	17.3
Lowell.....	—	—	—	34	33.6	32	269	36.8	33.8	23	18.9	15
Cambridge.....	—	—	—	71	22.4	21.3	346	37.9	35.5	30	25.5	20.7
Lynn.....	—	—	—	43	24.9	23.7	261	35.6	33.3	—	—	—
Springfield.....	—	—	—	76	18.8	18	318	33.6	31.3	30	44.2	35.6

Table VI.

Total and Per Capita Cost of Conducting Public Schools.

CITY.	COST OF CONDUCTING PUBLIC SCHOOLS.		
	Total of Salaries and Physical Maintenance.	Average Number of Pupils Belonging in Day and Evening Schools.	Per Capita of Average Number of Pupils Belonging in all Schools.
Boston.....	\$3,846,269 23	110,148	\$34 92
New York.....	25,718,714 96	697,594	136 87
Chicago.....	7,929,640 91	271,100	29 25
Philadelphia.....	5,045,010 36	186,291	27 08
St. Louis.....	2,510,241 72	76,167	32 96
Cleveland.....	2,281,092 25	77,057	29 60
Baltimore.....	1,596,344 67	65,179	24 49
Milwaukee.....	1,370,168 00	40,452	33 90
San Francisco.....	1,500,584 00	38,718	38 75
Washington.....	1,681,901 49	48,235	34 85
Minneapolis.....	1,352,170 88	41,447	32 62
Indianapolis.....	946,875 00	27,601	34 31
Providence.....	890,262 72	30,903	28 81
St. Paul.....	785,049 13	25,502	30 79
Worcester.....	653,157 20	22,073	29 59
Fall River.....	381,490 64	16,097	23 69
Lowell.....	361,306 47	14,025	25 80
Cambridge.....	493,507 27	18,245	27 06
Lynn.....	302,505 49	11,525	26 26
Springfield.....	538,390 02	14,221	237 87

¹ Light furnished by the city.² Salaries of janitors and cost of light, fuel, water and power are not paid by school department.

Table VII.

Cost of Conducting Public Schools, Classified by Amount Expended for Salaries and for Physical Maintenance for Twenty Cities.

CITY.	COST OF CONDUCTING PUBLIC SCHOOLS.				
	Total of Salaries and Physical Maintenance.	EXPENDED FOR			
		Salaries.		Physical Maintenance.	
		Total.	Per Cent.	Total.	Per Cent.
Boston.....	\$3,846,269 23	\$3,469,831 68	90.2	\$376,437 55	9.8
New York.....	25,718,714 96	23,615,422 68	91.8	2,103,292 28	8.2 ✓
Chicago.....	7,929,640 91	7,395,795 14	93.3	533,845 77	6.7 - ✓
Philadelphia.....	5,045,010 36	4,609,686 52	91.4	435,323 84	8.6 ✓
St. Louis.....	2,510,241 72	2,246,547 05	89.5	263,694 67	10.5 ✓
Cleveland.....	2,281,092 25	2,129,342 18	93.3	151,750 07	6.7 ✓
Baltimore.....	1,596,344 67	1,422,986 35	89.1	173,358 32	10.9 +
Milwaukee.....	1,370,168 00	1,265,541 00	92.4	104,627 00	7.6
San Francisco.....	1,500,584 00	1,439,212 00	95.9	61,372 00	4.1 - ✓
Washington.....	1,681,901 49	1,481,960 34	88.1	199,941 15	11.9 +
Minneapolis.....	1,352,170 88	1,221,142 77	90.3	131,028 11	9.7
Indianapolis.....	946,875 00	880,086 13	92.9	66,788 87	7.1
Providence.....	890,262 72	796,523 50	89.5	93,739 22	10.5 +
St. Paul.....	785,049 13	714,166 77	91.0	70,882 36	9.0
Worcester.....	653,157 20	596,531 59	91.3	56,625 61	8.7
Fall River.....	381,490 64	346,733 96	90.9	34,756 68	9.1
Lowell.....	361,306 47	329,628 62	91.2	31,677 85	8.8
Cambridge.....	493,507 27	444,971 46	90.2	48,535 81	9.8
Lynn.....	302,505 49	269,772 52	89.2	32,732 97	10.8 +
Springfield.....	538,390 02	418,862 02	77.8	119,528 00	22.2 +

Table VIII.

Amount of Salaries and Its Percentage of Total Cost of Conducting School Classified by Service for which Paid, for Twenty Cities.

CITY.	AMOUNT OF SALARIES PAID FOR			
	Adminis- tration. ¹	Super- vision. ²	Instruction. ³	Medical Inspection and Nursing.
Boston.....	\$101,677 23	\$54,395 31	\$3,032,342 45	\$25,435 00
New York.....	489,541 90 ⁵	289,009 95 ⁵	21,413,353 17	3,399 80
Chicago.....	136,618 31	81,036 80	6,401,621 60	8
Philadelphia.....	71,750 00	127,665 85	4,022,155 05	4,650 00
St. Louis.....	92,656 30	66,147 65	1,895,962 10 ¹⁰	2,500 00
Cleveland.....	¹⁶	64,869 76 ¹⁶	1,797,848 12	—
Baltimore.....	117,380 00	12,867 89	1,175,650 76	8
Milwaukee.....	18,760 00	31,325 00	1,132,840 00	7,400 00
San Francisco.....	33,330 00	17,080 00	1,324,741 00	8
Washington.....	9,561 22	72,612 00	1,294,703 00	5,833 30
Minneapolis.....	23,181 25	105,000 00	999,662 99	12
Indianapolis.....	16,382 75	60,670 50	644,821 75	8
Providence.....	23,561 78	12,875 82	682,669 94	8
St. Paul.....	13,815 00	14,700 00	582,811 77	3,750 00
Worcester.....	9,151 67 ¹³	6,125 00	532,533 50	8
Fall River.....	¹⁶	10,185 65 ¹⁶	289,858 80	8
Lowell.....	4,340 07	4,100 00	273,093 69	1,680 00
Cambridge.....	9,106 62	4,850 00	386,067 89	8
Lynn.....	4,864 52	4,124 01	234,999 74	8
Springfield.....	4,196 50 ¹³	5,800 00 ¹³	369,443 00	8

¹ Includes clerical and truant department salaries.

² Includes clerical salaries.

³ Includes librarians and clerical salaries.

⁴ School nurses and medical inspector; the remaining medical inspectors under the Board of Health.

⁵ Administration also includes the administrative cost of the school building and repairs (etc.) department, and all clerical of all departments, except instruction.

⁶ Exclusive of clerical and including a board of examiners.

⁷ Salaries of two "Examiners" (medical) for the teachers, "School Doctors" and the Board of Health.

⁸ Paid for by Board of Health.

Table VIII.

Amount of Salaries and Its Percentage of Total Cost of Conducting Schools, Classified by Service for which Paid, for Twenty Cities.

AMOUNT OF SALARIES PAID FOR		PERCENTAGE OF TOTAL COST OF CONDUCTING SCHOOLS PAID FOR					
Janitors, Matrons and Caretakers.	All Others.	Adminis- tration.	Super- vision.	Instruc- tion.	Medical Inspection and Nursing.	Janitors, Matrons and Care- takers.	All Others.
\$255,981 09	—	2.7	1.4	78.9	0.7	6.6	—
1,420,117 82	—	1.9	1.1	83.3	¹⁵	5.5	—
776,518 43	—	1.7	1.0	80.7	—	9.8	—
382,465 62	\$1,000 00	1.4	2.5	79.7	0.1	7.6	¹⁵
189,281 00	—	3.7	2.6	75.5	0.1	7.5	—
266,624 30	—	¹⁶	2.8 ¹⁶	78.8	—	11.7	—
117,087 70	—	7.3	0.8	73.6	—	7.3	—
74,536 00	680 00	1.4	2.3	82.6	0.5	5.4	0.05
64,061 00	—	2.2	1.1	88.3	—	4.3	—
96,661 29	2,589 47	0.6	4.3	76.9	0.3	5.8	0.2
93,298 53	—	1.7	7.8	73.9	—	6.9	—
61,317 00	96,894 13	1.7	6.4	68.1	—	6.5	10.2
71,570 98	5,844 98	2.6	1.4	76.7	—	8.0	0.7
54,679 14	44,410 86	1.7	1.9	74.2	0.5	7.0	5.6
48,721 42	—	1.4 ¹³	0.9	81.5	—	7.5	—
46,689 51	—	¹⁶	2.7 ¹⁶	76.0	—	12.2	—
46,914 86	—	1.2	1.1	75.5	0.5	13.0	—
44,946 95	—	1.8	1.0	78.4	—	9.1	—
24,584 25	1,200 00	1.6	1.4	77.7	—	8.1	0.4
39,422 52 ¹⁴	—	0.8 ¹³	1.1 ¹³	68.6	—	7.3	—

⁹ School nursing only.

¹⁰ There is an overlapping between the cost of instruction and supervision.

¹¹ Salary of one "Medical Adviser."

¹² No department.

¹³ Slight overlapping between administration and supervision. In Worcester this is clerical, that is, clerical supervision is with administrative clerical.

¹⁴ Matron in bath rooms *only* paid by school departments. Janitors under another department.

¹⁵ Less than .02 per cent.

¹⁶ Administration and supervision combined.

Table IX.

Percentage of Cost of Administration, Supervision and Instruction Combined, to Total Cost of Conducting Schools.

CITY.	Total of Salaries and Physical Maintenance.	Total Cost of Administration, Supervision and Instruction.	Per Cent of Cost of Administration, Supervision and Instruction to Total Cost of Salaries and Physical Maintenance.
Boston.....	\$3,846,269 23	\$3,188,414 99	82.9
New York.....	25,718,714 96	22,191,905 02	86.3
Chicago.....	7,929,640 91	6,619,276 71	83.5
Philadelphia.....	5,045,010 36	4,221,570 90	83.7
St. Louis.....	2,510,241 72	2,054,766 05	81.8
Cleveland.....	2,281,092 25	1,862,717 88	81.6
Baltimore.....	1,596,344 67	1,305,898 65	81.8
Milwaukee.....	1,370,168 00	1,182,925 00	86.3
San Francisco.....	1,500,584 00	1,375,151 00	91.7
Washington.....	1,681,901 49	1,376,876 22	81.9
Minneapolis.....	1,352,170 88	1,127,844 24	83.4
Indianapolis.....	946,875 00	721,875 00	76.2
Providence.....	890,262 72	719,107 54	80.8
St. Paul.....	785,049 13	611,326 77	77.8
Worcester.....	653,157 20	547,810 17	83.9
Fall River.....	381,409 64	300,044 45	78.7
Lowell.....	361,306 47	281,533 76	77.8
Cambridge.....	493,507 27	400,024 51	81.1
Lynn.....	302,505 49	243,988 27	80.6
Springfield.....	538,390 02	379,439 50	70.4

TABLE X.

Table X.

Amount and Per Cent Distribution of Teachers' Salaries in Regular Day Schools Classified by Groups of Schools for Twenty Cities.

CITY.	Total Salaries Expended for Regular Day Schools. ¹	SALARIES EXPENDED FOR	
		NORMAL.	
		Amount.	Per Cent.
Boston.....	\$2,852,597 09	\$31,584 84	1.1
New York.....	19,001,575 00	283,740 00	1.5
Chicago.....	5,570,819 10	84,983 98	1.5
Philadelphia.....	3,884,145 48	51,059 58	1.3
St. Louis.....	1,864,239 00	20,979 35	1.1
Cleveland.....	1,709,693 04	15,436 86	0.9
Baltimore.....	1,142,152 44	12,246 87	1.1
Milwaukee.....	1,077,287 00	—	—
San Francisco.....	1,255,192 00	—	—
Washington.....	1,204,449 25	² 29,753 34	2.5
Minneapolis.....	964,395 73	—	—
Indianapolis.....	704,491 69	—	—
Providence.....	637,105 57	—	—
St. Paul.....	594,166 27	14,151 08	2.4
Worcester.....	472,295 00	—	—
Fall River.....	277,066 05	—	—
Lowell.....	235,664 96	—	—
Cambridge.....	359,429 19	—	—
Lynn.....	228,745 74	—	—
Springfield.....	354,638 00	—	—

¹ In some instances salaries of clerical assistants to teachers are included.

² The figures for the normal schools include 20 practice schools, with \$14,100 expenditure.

Table X.

Amount and Per Cent Distribution of Teachers' Salaries in Regular Day Schools Classified by Groups of Schools for Twenty Cities.

SALARIES EXPENDED FOR					
HIGH.		ELEMENTARY.		KINDERGARTEN.	
Amount.	Per Cent.	Amount.	Per Cent.	Amount.	Per Cent.
\$649,845 67	22.8	\$2,040,640 98	71.5	\$130,525 60	4.6
2,352,650 00	12.4	15,756,705 00	182.9	608,480 00	3.2
785,652 50	14.1	² 4,700,182 62	84.4	²	—
580,727 37	15.0	3,120,613 05	80.3	131,745 48	3.4
306,524 80	16.5	¹ 1,383,353 30	74.2	153,381 55	8.2
357,299 86	20.9	1,273,144 36	74.5	63,811 96	3.7
188,667 57	16.5	922,734 00	80.8	18,504 00	1.6
158,027 00	14.7	² 919,260 00	85.3	²	—
187,528 00	14.9	1,067,664 00	85.1	—	—
275,849 75	22.9	830,094 65	68.9	68,751 51	5.7
208,023 00	21.6	748,512 00	77.6	7,860 73	.7
136,836 59	19.4	567,655 10	80.6	—	—
151,362 50	23.8	452,403 63	71.0	33,339 44	5.2
110,136 77	18.5	428,780 26	72.2	41,098 16	6.9
104,050 00	22.0	347,945 00	73.7	20,300 00	4.3
³ 36,108 60	13.0	237,387 66	85.7	3,569 79	1.1
38,015 51	16.1	185,736 69	78.8	11,912 76	4.7
84,793 50	23.6	254,720 26	70.9	19,915 43	5.5
54,691 74	23.9	174,054 00	76.1	—	—
90,586 00	25.5	247,843 00	69.9	16,209 00	4.6

¹ All elementary special schools are included.

² Kindergarten included with elementary.

³ Includes salaries of eight Normal School teachers.

Table XI.

Total and Per Capita Cost of Instruction in Day High Schools and Day Elementary Schools.

CITY.	HIGH SCHOOLS.		ELEMENTARY SCHOOLS.			
	Average of Pupils Belonging.	Total Salaries of Teachers.	Per Capita Cost of Instruction Based on Average of Pupils Belonging.	Average of Pupils Belonging.	Total Salaries of Teachers.	Per Capita Cost of Instruction Based on Average of Pupils Belonging.
Boston ¹	9,725	\$649,845 67	\$66 82	82,408	\$2,040,640 98	\$24 76
New York	30,762	2,352,650 00	76 48	² 582,999	⁴ 15,756,705 00	27 02
Chicago	14,685	785,652 50	53 50	221,975	⁶ 4,700,182 62	21 17
Philadelphia ¹	9,206	580,727 37	63 08	155,302	3,120,613 05	20 09
St. Louis	4,436	306,524 80	69 10	60,230	⁴ 1,383,353 30	22 97
Cleveland	4,787	357,299 86	74 64	59,285	1,273,144 36	21 47
Baltimore	3,814	188,667 57	49 47	56,976	922,734 00	16 20
Milwaukee	3,185	158,027 00	49 62	32,968	⁶ 919,260 00	27 88
San Francisco ¹	2,459	187,528 00	76 26	32,676	1,067,664 00	32 67
Washington ¹	4,135	275,849 75	66 71	39,751	830,094 65	20 88
Minneapolis	5,086	208,023 00	40 90	³ 34,705	748,512 00	21 57
Indianapolis	2,827	136,836 59	48 40	24,501	567,655 10	23 17
Providence	2,564	151,362 50	59 03	23,762	452,403 63	19 04
St. Paul	2,273	110,136 77	48 45	20,061	428,780 26	21 37
Worcester	2,066	104,050 00	50 36	17,131	347,945 00	20 31
Fall River ¹	⁶ 1,084	⁶ 36,108 60	33 31	13,002	237,387 66	18 26
Lowell	1,141	38,015 51	33 32	9,900	185,736 69	18 76
Cambridge	1,590	84,793 50	53 33	13,110	254,720 26	19 43
Lynn	1,072	54,691 74	51 02	9,315	174,054 00	18 69
Springfield ¹	1,437	90,586 00	63 04	10,606	247,843 00	23 37

¹ Salaries of teachers includes principals, teachers and clerical.

² Includes truant schools.

³ Includes kindergartens.

⁴ Salaries of elementary special schools are included.

⁵ Includes kindergarten salaries.

⁶ Includes Normal School.

TABLE XII.

Table XII.

Number and Average Annual Salaries of Teachers in Special Departments.

CITY.	DEPARTMENTS OF					
	COOKING.			SEWING.		
	Number of Teachers.	Total Salaries.	Average Salary per Teacher.	Number of Teachers.	Total Salaries.	Average Salary per Teacher.
Boston.....	38	\$26,150 86	\$688 18	87	\$45,338 11	\$521 1
New York ¹	115	127,200 00	1,106 08	62	73,000 00	1,177 4
Chicago.....	44	226,498 65	602 24	—	—	—
Philadelphia.....	22	20,206 38	918 47	70	53,543 02	764 9
St. Louis.....	—	—	—	—	—	—
Cleveland.....	—	—	—	—	—	—
Baltimore.....	23	10,050 00	436 95	27	16,832 34	623 4
Milwaukee.....	10	9,070 00	907 00	—	—	—
San Francisco....	9	8,400 00	933 33	1	1,200 00	1,200 0
Washington ³	25	16,169 50	646 78	33	20,712 50	627 6
Minneapolis.....	16	13,893 00	868 31	1	1,300 00	1,300 0
Indianapolis.....	10	7,675 00	767 50	6	5,275 00	879 1
Providence.....	—	—	—	—	—	—
St. Paul ³	4 ⁴	3,375 00	843 75	4	—	—
Worcester.....	6	3,226 32	537 72	4	2,558 00	639 5
Fall River.....	—	—	—	5	3,200 00	640 0
Lowell.....	—	—	—	1	800 00	800 0
Cambridge.....	1	880 00	880 00	24	4,325 00	180 2
Lynn.....	1	700 00	700 00	—	—	—
Springfield.....	4	2,887 00	721 75	3	2,050 00	683 3

¹ Taken from the budget, gives number of teachers for May 31, 1909, and salaries.

² Approximate.

³ In graded schools.

⁴ Sewing and cooking combined.

Table XII.

Number and Average Annual Salaries of Teachers in Special Departments.

DEPARTMENTS OF					
WOODWORKING, SLOYD, ETC.			DRAWING.		
Number of Teachers.	Total Salaries.	Average Salary per Teacher.	Number of Teachers.	Total Salaries.	Average Salary per Teacher.
166	\$60,643 96	\$918 84	1	—	—
266	90,020 00	1,363 94	53	\$72,860 00	\$1,374 72
—	—	—	—	—	—
28	31,154 57	1,112 66	43	56,590 00	1,316 04
432	27,033 05	844 78	8	10,885 00	1,360 62
—	—	—	—	—	—
15	10,000 00	666 66	11	8,700 00	790 90
10	8,234 00	823 40	—	—	—
11	14,560 00	1,323 63	9	16,500 00	1,833 33
18	14,190 00	788 33	14	9,357 50	668 39
—	—	—	2	3,500 00	1,750 00
17	13,275 00	780 88	4	6,000 00	1,500 00
—	—	—	4	4,540 99	1,135 24
13	1,110 00	85 38	1	1,600 00	1,600 00
14	14,783 38	1,055 96	5	5,270 00	1,054 00
—	—	—	1	1,300 00	1,300 00
—	—	—	2	1,500 00	750 00
—	—	—	8	3,948 00	493 50
1	1,000 00	1,000 00	3	2,950 00	983 33
7	6,950 00	992 85	9	5,200 00	577 77

¹ Drawing included with woodworking, sloyd, etc.

² Called "shop work."

³ Manual training.

⁴ Includes manual training and domestic science.

Table XII.—*Concluded.*

Number and Average Annual Salaries of Teachers in Special Departments.

CITY.	DEPARTMENTS OF				
	MUSIC.			PHYSICAL TRAINING.	
	Number of Teachers.	Total Salaries.	Average Salary per Teacher.	Number of Teachers.	Total Salaries.
Boston.....	9	\$17,783 48	\$1,975 94	32	\$33,702 88
New York ¹	53	75,160 00	1,418 11	31	37,900 00
Chicago.....	10	7,613 50	761 35	10	7,215 25
Philadelphia.....	22	25,367 31	1,153 05	24	28,033 22
St. Louis.....	8	8,486 00	1,060 75	8	8,124 65
Cleveland.....	—	—	—	—	—
Baltimore.....	4	4,200 00	1,050 00	6	4,740 00
Milwaukee.....	1	2,000 00	2,000 00	5	7,600 00
San Francisco....	4	5,400 00	1,350 00	2	2,400 00
Washington ²	18	12,980 50	721 14	13	8,275 00
Minneapolis.....	1	1,500 00	1,500 00	1	1,500 00
Indianapolis....	4	5,350 00	1,337 50	3	2,760 00
Providence.....	3	4,083 33	1,361 11	1	1,600 00
St. Paul ²	1	1,700 00	1,700 00	1	1,500 00
Worcester.....	3	3,778 00	1,259 33	1	1,084 88
Fall River.....	1	1,400 00	1,400 00	—	—
Lowell.....	2	2,050 00	1,025 00	—	—
Cambridge.....	2	2,850 00	1,425 01	1	950 00
Lynn.....	2	2,300 00	1,150 00	2	800 00
Springfield.....	7	2,500 00	357 14	6	6,120 00

¹ Taken from the budget, gives number of teachers for May 31, 1909, and salaries.

² In graded schools.

Table XII.—*Concluded.*

Number and Average Annual Salaries of Teachers in Special Departments.

DEPARTMENTS OF				
PHYSICAL TRAINING.	ALL OTHER.			
Average Salary per Teacher.	Designation.	Number of Teachers.	Total Salaries.	Average Salary per Teacher.
\$1,053 21	—	—	—	—
1,222 58	{ French teachers.	6	\$8,400 00	\$1,400 00
	{ German teachers.	51	74,600 00	1,462 75
	{ Penmanship teacher.	1	1,200 00	1,200 00
721 52	—	—	—	—
1,168 05	Clay modeling.	3	1,800 00	600 00
1,015 58	Penmanship.	1	1,750 00	1,750 00
—	—	—	—	—
790 00	—	—	—	—
1,520 00	—	—	—	—
1,200 00	—	—	—	—
636 54	—	—	—	—
1,500 00	—	—	—	—
920 00	{ Penmanship.	1	1,800 00	1,800 00
	{ German teachers.	40	30,000 00	750 00
1,600 00	—	—	—	—
1,500 00	Penmanship.	1	1,200 00	1,200 00
1,084 88	{ Writing teacher.	1	855 00	855 00
	{ German teachers.	3	2,100 00	700 00
	{ French teachers.	3	1,900 00	633 33
—	Reading teacher.	1	1,100 00	1,100 00
—	—	—	—	—
950 00	Basketry.	2	105 00	52 50
400 00	Ninth Grade Latin.	1	900 00	900 00
1,020 00	—	—	—	—

Table XIII.

Amount and Per Cent Distribution of the Cost of Physical Maintenance Schools, Classified by Kind of Maintenance for which Paid, for Twenty Cities.

CITY.	COST OF PHYSICAL MAINTENANCE.			
	Total.	Light, Fuel, Water and Power.	EXPENDED FOR	
			Books.	Supplies for Manual Training Domestic Art and Domestic Science.
Boston.....	\$376,437 55	¹ \$149,987 67	\$68,817 43	\$31,237 58
New York.....	2,103,292 28	² 533,586 57	³	³
Chicago.....	533,845 77	⁴ 299,784 79	⁵ 17,561 77	74,398 75
Philadelphia.....	435,323 84	138,237 12	⁶ 243,527 28	⁷
St. Louis.....	263,694 67	65,917 31	30,405 05	9,843 68
Cleveland.....	151,750 07	¹ 79,730 83	33,657 50	⁷
Baltimore.....	173,358 32	66,105 40	⁵ 47,858 31	7,558 68
Milwaukee.....	104,627 00	64,960 00	⁸ 3,277 00	14,390 00
San Francisco.....	61,372 00	31,032 00	3,401 00	13,994 00
Washington.....	199,941 15	83,506 31	⁹	19,908 67
Minneapolis.....	131,028 11	52,728 08	⁵ 24,746 37	24,303 59
Indianapolis.....	66,788 87	46,895 32	⁶ 7,445 12	12,448 43
Providence.....	93,739 22	46,086 25	24,448 47	4,563 74
St. Paul.....	70,882 36	59,382 36	—	3,000 00
Worcester.....	56,625 61	36,461 46	⁵ 15,514 37	4,649 78
Fall River.....	34,756 68	17,286 88	³	³
Lowell.....	31,677 85	24,401 05	⁶ 6,614 84	661 96
Cambridge.....	48,535 81	24,431 91	³	³
Lynn.....	32,732 97	¹ 13,288 64	9,371 54	830 61
Springfield.....	119,528 00	48,246 00	11,850 00	4,701 00

¹ Includes light, power and fuel only.

² Light furnished by the city, and for the administrative building; heat, light and power are included.

³ Included in "all other supplies and incidentals."

⁴ Fuel only.

⁵ Includes text-books only.

⁶ Includes stationery.

⁷ Included with all other supplies and incidentals.

⁸ Supplementary reading; no free text-books.

⁹ Text-books included with all other supplies.

Table XIII.

Amount and Per Cent Distribution of the Cost of Physical Maintenance of Schools, Classified by Kind of Maintenance for which Paid, for Twenty Cities.

COST OF PHYSICAL MAINTENANCE.	PER CENT OF THE COST OF PHYSICAL MAINTENANCE EXPENDED FOR			
	EXPENDED FOR			
All other Supplies and Incidentals.	Light, Fuel, Water and Power.	Books.	Supplies for Manual Training, Domestic Art and Domestic Science.	All other Supplies and Incidentals.
\$126,394 87	39.8	18.3	8.3	33.6
¹ 1,569,705 71	25.4	—	—	74.6
•142,100 46	56.2	3.3	13.9	26.6
² 53,559 44	31.7	56.0	—	12.3
157,528 63	25.0	11.5	3.7	59.8
² 38,361 74	52.5	22.2	—	25.3
51,835 93	38.1	27.6	4.4	29.9
22,000 00	62.1	3.1	13.8	21.0
12,945 00	50.6	5.5	22.8	21.1
³ 96,526 17	41.8	—	9.9	48.3
29,250 07	40.2	18.9	18.6	22.3
—	70.2	11.2	18.6	—
18,640 76	49.1	26.1	4.9	19.9
8,500 00	83.8	—	4.2	12.0
—	64.4	27.4	8.2	—
¹ 17,469 80	49.7	—	—	50.3
—	77.0	20.9	2.1	—
¹ 24,103 90	50.3	—	—	49.7
9,242 18	40.6	28.7	2.5	28.2
54,731 00	40.4	9.9	3.9	45.8

¹ Includes text-books and all other supplies.

² Included with all other supplies and incidentals.

³ Text-books included with all other supplies.

PART V.—CONCLUSIONS AND RECOMMENDATIONS.

From the foregoing review of the school system of Boston, and comparison with other cities, the Finance Commission has reached the following

CONCLUSIONS.

1. No thoroughly satisfactory comparisons of costs can be made between the Boston school system and those of other cities, because of the difference in the methods of school accounting, in the presentation of school data, and in school conditions. So far as such comparisons can be made, however, they are on the whole favorable to Boston.

2. Boston's schools have reached their present condition under the guidance of those wise counsellors, whose aim has been the development of a well ordered system of centralized authority in which the School Committee should legislate upon matters of general policy, while the details of administration should be cared for by paid officials trained in educational and business affairs.

3. The administration of the School Committee, both on the educational and business sides, is entitled to the full confidence of the community. At no time in the history of the schools have they been conducted in a more intelligent or economical manner than at present. In the matter of getting a dollar's worth of value for every dollar spent the School Department contrasts very favorably with most other departments of the city. In fact, other departments might well study this department with a view to imitating it in regard to scales of salary, absence of unnecessary employees, economical methods

of purchase, intelligent schemes of supervision and organization, merit system of promotion and exclusion of politics from appointments. The School Department is not perfect in these respects, but when the other departments are brought to the same level, or nearly to the same level, the city will have made an enormous step in advance.

4. There is very little opportunity for retrenchment in school expenditures. Although the amount expended annually is large, the purposes for which the money is spent are definitely fixed by statute or by schedule, or by the actual necessities of the situation; for example:

(a) Salaries of instructors, janitors and subordinates are established upon carefully prepared schedules, which cannot in justice be reduced. To meet them there is required each year more than four-fifths of the total appropriations. Salaries of officials are in addition, and an analysis shows that none of these is excessive.

(b) Pensions, the cost of physical education, of nurses, and of repairs are the subjects of special statutes, and the amounts authorized are not too large.

(c) Fuel, light and power are necessities, which the Finance Commission believes are being provided economically.

(d) Books are also necessities, in the purchase of which there seems to be no practical way to effect material economies.

(e) Trust funds cannot be touched, except for their own definite purposes.

(f) All that remains is the item of incidentals, which includes supplies of all kinds other than books. This amounts to only about 3 per cent of the total school expenses and any material reduction would not only be insignificant

nificant in amount, but harmful to the school system. The only just criticism that can be made here is that the financial needs of the schools have sometimes compelled a too great economy in this direction.

5. The large expenditures of recent years are due to an attempt to supply the deficiencies of previous years and to meet real needs. In response to popular demands many experiments have been and are being made which have not yet fully shown their worth. Some of these experiments may fail; but all progress comes through experiment. There is nothing which is being done which is not worth serious consideration and a fair trial.

6. The introduction of advisory committees is excellent, if not carried too far. These advisory committees are not elected by or in any way responsible to the people; they are quite large, and are made up of busy men, whose early interest sometimes wanes, and the real control falls into the hands of a few energetic enthusiasts. The responsibility of final decision in all matters must rest with the School Committee, and in weighing the advice given the question of how far the entire advisory committee has taken part in the matter should be considered. The history of the non-elected primary school committee from 1818 to 1854, and its controversy with the elected school committee which created it, is a warning against the dangers that may arise in this direction.

RECOMMENDATIONS.

The commission recommends:

1. That the names attached to the positions of auditor and business agent be transferred one to the other, so that each office shall have a name which

properly describes it, and that the present confusion of duties may be avoided.

2. That the publication of two reports, one by the business agent and one by the auditor, be discontinued, and that there be substituted therefor a single report on school finances, which may be prepared by the two officials in co-operation, or may contain reports from each, but which shall contain no duplication of material.

3. That the schools be given jurisdiction over licenses of all minors, of whatever age, who attend school.

4. That the Board of Superintendents and other highly paid officials be allowed sufficient clerical assistance whenever it is required in the discharge of their duties.

5. That clerical assistants to the principals be appointed in the elementary schools.

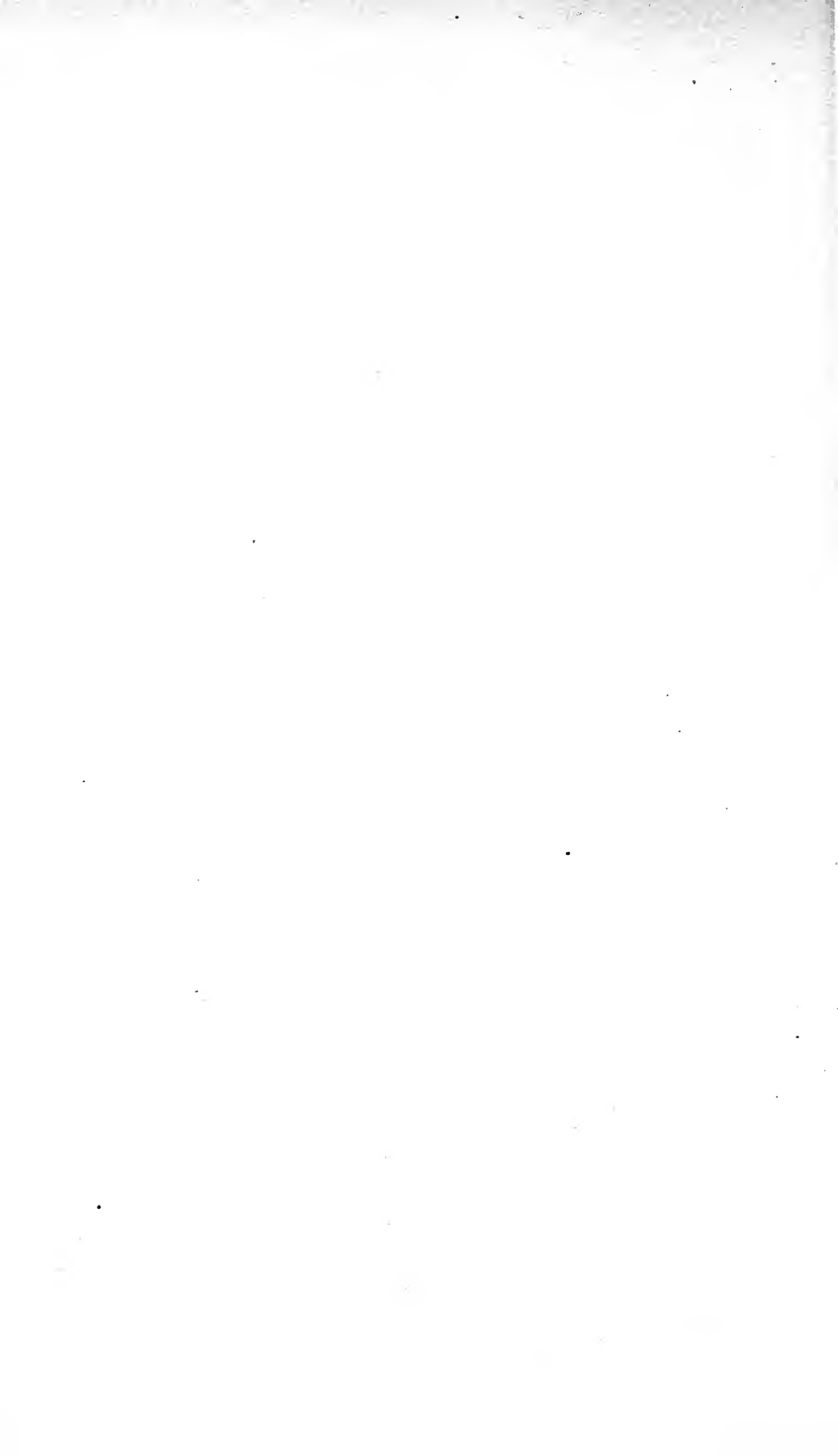
6. That books be not allowed in the schools after they have been removed from the authorized lists; nor after they have become unduly worn or unclean.

7. That every care be taken to exclude incompetent teachers from the service; and to that end that a more complete and thorough system of visitation of schools and teachers be introduced, possibly through an enlargement and extension of the department under the supervisor of substitutes.

8. That the policy of reducing the quota of pupils to teachers in the high and elementary schools be continued, and that still further reductions be made.

9. That the existing policy of permitting the use of school buildings for other than school purposes be extended as funds become available.

10. That, if necessary, the Legislature be asked to grant a larger appropriation for school purposes. This can readily be done without materially raising the tax rate, if reasonable economies so often recommended by the Finance Commission be introduced in other municipal departments. Waste, due to political methods in other departments, should not be allowed to absorb the money needed by the child.



APPENDIX.

APPENDIX I.

REPORT ON THE BOSTON NORMAL SCHOOL.

February 25, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On September 24, 1910, your Honor requested the Finance Commission to investigate and report on the question whether the Boston Normal School should be transferred to the state and maintained at state expense, or, if that should be inadvisable, to consider the question whether some compensation should not be given by the state to the city for work performed on the state's behalf.

The commission has caused the investigation to be made by the director of the Bureau of Municipal Research, Mr. George A. O. Ernst, and it submits a copy of his report herewith. The commission concurs in the conclusions and recommendations therein contained.

This commission, like its predecessor the former Finance Commission, has given much thought to such readjustments of expense between the city and the state as will do justice to the city and make the institutions affected more successful. With this in mind the transfer of the Boston Insane Hospital to the state was recommended and effected, the city saving upwards of \$100,000 a year thereby and the inmates being better cared for. This commission has also recommended a transfer of the Suffolk School for Boys and the placing-out and office division of the Children's Institutions Department to the state which, if effected, will save the city nearly \$100,000 annually and improve the lot

of the children now intrusted to the city. But such saving of expense is not so clear in the case of the Boston Normal School, and it is also not clear that taking from Boston control of the educational standards of its teachers will be beneficial.

The commission believes, however, that Boston should not maintain its Normal School at its sole expense, but that the state should contribute to its support.

The commission therefore recommends that the city retain control of the school and that legislation be passed along the lines of House bill No. 589, which has been introduced by your Honor.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN F. MOORS,
Acting Chairman.

February 21, 1911.

To the Boston Finance Commission:

GENTLEMEN,— You have requested me to investigate the following questions: First, whether the Boston Normal School should be transferred to the state, and second, if not, whether the state should be asked to contribute to the city a part of the cost of the maintenance of the school.

I have done so and have reached the following conclusions:

1. That the only reason for the transfer is the injustice of making Boston pay the entire expense of its own Normal School while also paying, through the state tax, a little more than one third of the expense of the state normal schools.

2. That there is a strong popular feeling against the transfer and that this feeling is shared by such educational experts as Ex-Superintendent Edwin P. Seaver and George B. Martin, former member of the Board of Supervisors and now treasurer of the State

Board of Education, and that there is at present no urgent demand for the transfer.

3. That under the School Board as at present constituted and because of the establishment of a merit list in making appointments of teachers, there is less reason than there may have been in the past to urge the transfer.

4. That the Normal School, if properly conducted, has a distinct value to Boston in training teachers for the especial local needs of Boston schools.

5. That under state auspices the school would probably grow to very large proportions and that Boston's share of the total cost of maintenance would in the end probably be quite as large as the amount which it now pays for the entire cost of maintenance.

6. That Mayor Fitzgerald's petition, now before the Legislature, remedies the present injustice by asking a contribution from the state, meanwhile preserving the school as a Boston institution.

7. That on the whole it is better, if possible, to secure a contribution from, than a transfer to, the state.

The following are the facts and reasons upon which these conclusions are based:

1. HISTORICAL SURVEY.

"As is the teacher so is the school." This axiom, borrowed from Prussia, was the text used by Horace Mann and others in securing the establishment of normal schools in Massachusetts. (Martin's *Evolution of the Massachusetts Public School System*, page 202, page 170.)

Prior to the establishment in 1837 of the State Board of Education and the election of Horace Mann as its secretary, there was little opportunity for preparation for teaching as a profession, although for many years the leaders of educational reform had urged the establishment of a seminary for the special training of teachers. (*Id.*, page 169.)

In 1838 Edmund Dwight of Boston, a member of the Board of Education, offered to give \$10,000 if the state would give an equal sum for the instruction of teachers in normal schools; and in that year the Legislature appropriated \$10,000 to be expended by the Board of Education in the training of teachers. (*Id.*, page 171.)

The first normal school in America was opened at Lexington July 3, 1839 (later transferred to West Newton and then to Framingham), and on September 4, 1839, one was opened at Barre (later transferred to Westfield). A third was opened at Bridgewater September 9, 1840. (*Id.*, page 172.)

At the present time there are ten state normal schools as follows:

Normal Schools.	First Opened.
Framingham	July 3, 1839, at Lexington.
Westfield.	September 4, 1839, at Barre.
Bridgewater	September 9, 1840.
Salem	September 14, 1854.
Boston, Normal Art	November 11, 1873.
Worcester	September 15, 1874.
Fitchburg	September 11, 1895.
North Adams	February 1, 1897.
Hyannis (Barnstable)	September 9, 1897.
Lowell	October 4, 1897.

The Boston Normal School was established in 1852. (City Document 40 of 1852.) It was among the first fruits of the establishment in 1851 of the position of Superintendent of Schools. Nathan Bishop, who was the first Superintendent of Schools in Boston, saw the great need of better teachers and strongly urged a city normal school as a means of securing them. (City Document 73 of 1852, page 38.)

There was no thought then of the state ever taking over the school. On the contrary, it was specifically intended to be a city school. The committee in recommending its establishment uses this language (City Document 32 of 1852, page 14): "It never was the design and probably never will be the policy of the

state to maintain schools of this character in sufficient numbers to qualify and furnish teachers for all the schools of the state. But it was confidently believed that, should a full and fair experiment be made under her auspices, and the results answer the expectations of the friends of popular education, the various counties and cities would thereby be induced to found similar schools for their especial benefit and under their own control."

This hope, however, has not been fulfilled, for there are practically no county or city normal schools outside of Boston, although there are several training schools. In New Bedford there is a Normal and Training School, so called, but it is very small.

The original purpose of the Boston Normal School was to prepare young women to become teachers, but by force of circumstances it soon became almost exclusively a means of giving girls a high school education. A high school for girls had been established in Boston in 1826, but was given up in 1828 for the singular reason that it was too successful, attracting too many scholars. Efforts were made later to re-establish such a school, but they were resisted. After the Normal School was established in 1852 it became evident that girls fresh from the grammar schools were not fit candidates for normal training and that high school education was necessary as a preliminary to normal work. Friends of further educational opportunities for girls took advantage of this as a means of securing high school courses for all girls, whether they intended to teach or not, and in 1854 the School Committee, with a view of adapting the school to the double purpose of giving its pupils high school and normal instruction, caused the introduction of additional courses of study, and the institution became the Girls' High and Normal School. So great was the demand for high school education for girls that the normal features were soon quite overshadowed by the high school work. To remedy this a training department was organized in 1864. This did

not accomplish the desired result, and the normal element was again practically crowded out by the high school work. This continued until 1872, when the School Committee yielded to the popular demand for a special High School for Girls and thereafter the Normal School and the Girls' High School were conducted as separate institutions. (Annual School Report of 1873, page 229 *et seq.*)

This separation gave rise to the question of the legality of using the city's money for a purely normal school, and the Corporation Counsel having ruled it illegal (*id.*, page 258), the Legislature confirmed the city's right to continue it. (Acts of 1874, ch. 167.)

In 1882 the City Solicitor ruled that the city could not legally provide instruction in the Normal School for the benefit of teachers already in the service of the city, and the Legislature thereupon gave the necessary authority. (Acts of 1882, ch. 136.)

In 1888 the course in the Normal School was extended to one and one-half years; in 1892 to two years, which is the present term. A further extension is contemplated.

The school having been originally established for girls, the Corporation Counsel ruled that men could not be admitted, and in 1904 the Legislature being appealed to authorized the instruction of men therein. (Acts of 1904, ch. 212.) This privilege has never been freely availed of, there being at the present time eleven men in attendance out of a total of 230.

From the beginning the school has been handicapped in its work, first by the overshadowing of the high school element, and subsequently by lack of proper accommodations until 1907, when the Normal Group of buildings on Huntington avenue was completed and occupied.

2. EFFORTS TO TRANSFER THE SCHOOL TO THE STATE OR TO OBTAIN STATE CONTRIBUTIONS.

Efforts from time to time have been made to discontinue the school and have it taken over by the state

or to induce the state to contribute to its support, but they have been uniformly and strongly resisted.

In 1898 the School Committee (Minutes of 1898, page 310) voted in May (13 to 9) to discontinue the school, but the popular protest was so great that in November (*id.*, page 574) the vote was rescinded (17 to 4). Among those who, having voted in the spring to discontinue the school, reversed the vote in the fall was A. Lawrence Lowell, now President of Harvard University.

In 1904 the School Committee petitioned the Legislature for an act requiring the state to pay to the city "such proportion of the cost of maintaining the Boston Normal School as the Commonwealth should justly assume" (House No. 450), but was given leave to withdraw.

In 1906 Mayor Fitzgerald in his first inaugural address said:

"Boston supports a Normal School out of its city treasury and at the same time pays 36 per cent of the cost of other normal schools located in different sections of the state. It is an open question whether the time has not arrived for the city to ask the state to take over the city Normal School, thus relieving Boston of a special burden for which it is doubtful if it receives any adequate compensating advantages."

The School Committee referred this part of the Mayor's address to the Board of Supervisors (Minutes of 1906, page 4) who reported that inasmuch as the construction of a new Normal School had already been begun further consideration of the matter seemed unnecessary. (*Id.*, page 122.)

The School Board voted to authorize the chairman on behalf of the Board to petition the Legislature for the passage of an act to provide that the Commonwealth pay to the city the sum of \$170 for each pupil in the Boston Normal School completing the prescribed course of study (*id.*, page 22; House No. 589 of 1906); also to reimburse the City of Boston for the expense to be incurred by the city in erecting and equipping a new

Normal School building to an amount not exceeding \$300,000. (*Id.*, page 24.) The Legislature gave leave to withdraw.

Mayor Fitzgerald has petitioned the present Legislature to make an allowance to Boston for its Normal School equivalent to the average cost of the same number of pupils in the State Normal Schools. (House No. 589 of 1911.)

3. COMPARISON OF COST OF THE BOSTON NORMAL SCHOOL WITH STATE NORMAL SCHOOLS.

It is not easy to compare the cost of the State Normal Schools with that of Boston, because the conditions are different and the fiscal years terminate at different times. The course in the Boston Normal School is two years, while some of the state schools have three and even four year courses. Several of the state schools have dormitories and large grounds which add to the cost.

At my request the Commissioner of Education, Dr. David Snedden, has made a statement of what he regards as fairly comparable costs, as follows:

COMPARISON OF EXPENDITURES OF THE VARIOUS NORMAL SCHOOLS.

I.	State expenditure for nine state normal schools for 1910,	\$341,708.47
	State expenditure, less model school buildings and grounds and summer school.....	\$235,735.01
	Total attendance for December 1, 1910.....	1,835
	Per capita cost on total state outlay.....	\$186.21
	Per capita cost on state outlay, less model school buildings and grounds.....	\$128.46
II.	<i>Bridgewater Normal School</i> — Total state expenditure..	\$53,991.00
	State expenditure, less model school, buildings and grounds.....	\$37,300.76
	Total attendance, December 1, 1910.....	330
	Per capita cost of state on total expenditure.....	\$163.61
	Per capita cost on state expenditure, less model school, buildings and grounds.....	\$113.03
III.	<i>Salem Normal School</i> — Total state expenditure.....	\$44,425.00
	Total expenditure, less model school, buildings and grounds.....	\$33,563.00

Total attendance, December 1, 1910.....	244
Per capita cost on total state outlay.....	\$182.07
Per capita cost on state outlay, less model schools, buildings and grounds.....	\$137.56
IV. <i>Boston Normal School</i> — Total expenditure for 1909–10,	\$39,815.55
Total expenditure, less one training teacher (\$1,836), and amounts for fuel, power and light.....	\$36,146.50
Average membership, 1909–10.....	215
Per capita cost on total outlay.....	\$185.19
Per capita cost on outlay, less one training teacher, fuel, power and light.....	\$168.12

NOTE.—The state normal schools (other than the Normal Art School) train only elementary teachers and their expenditures alone are employed here since the expenditures of the Normal Art School are affected by other conditions. The total expenditure under the first head excludes the contribution of Fitchburg, since this is merely a bookkeeping device providing for the contribution of Fitchburg toward the education of children in practice schools. Under Items I., II. and III. the second total is arrived at by deducting costs of model school, maintenance of buildings and grounds and the summer school in the case of the Hyannis Normal. The amounts thus arrived at correspond very fairly with the expenditure on the Boston Normal School when fuel, power and light, and the salary of one training teacher (\$1,836), are deducted. For purposes of comparison, therefore, the second per capita in each case seems to be the fairer one.

Doctor Snedden's figures seem to indicate that Boston pays \$168.12 for what the state pays \$128.46 at nine schools, or \$113.03 at Bridgewater and \$137.56 at Salem. Doctor Snedden says that this excess cost does not necessarily mean extravagance in the Boston management, and that probably the cost would not be materially reduced under state management. I am myself convinced that the circumstances are so different that a fair comparison can hardly be made.

4. GROUNDS OF OPPOSING THE TRANSFER.

Six of the state Normal Schools have dormitory facilities and in these the state practically contributes to the students free rooms, charging only for board and incidentals. Thus the cost to the state for training a girl in a Normal School having a dormitory is greater than in the other Normal Schools. In its latest Annual Report (Public Document of 1911, No. 2) the State Board of Education says: "There can be hardly any question that two years of dormitory life under proper conditions do much to widen the outlook and enlarge the social capacity of those who are to be

teachers. Normal School students are drawn from the middle ranks of life, and if a young woman lives at home during the time she is preparing for her profession, and especially if she spends considerable time in traveling to and from school, she is hampered in her work and lacks certain advantages incident to dormitory life.

If this argument should prevail in Boston, the Boston Normal School under state auspices might become very expensive. There are no dormitories connected with the Boston Normal School; should it be taken over by the state there might be a demand for them from nonresident pupils. This is, of course, not an immediate danger, but it should be considered.

There would undoubtedly be a much larger attendance of pupils from outside of Boston if it became a state institution. At present outsiders pay Boston for their tuition, and the number is thus restricted. If the state should take the school there would be no charge, and consequently no pecuniary restraint upon attendance.

If the state should take over the Boston Normal School it is entirely possible that Boston would be required to furnish the site and perhaps the building. It would be a matter of compromise and, as Boston would take the initiative, the state would probably be at least lukewarm, Boston would have to do the yielding. In 1894 North Adams, Fitchburg and Lowell (by Acts of 1894, ch. 45) were each required to pay into the Treasury of the Commonwealth \$25,000 in cash, Hyannis was required to furnish the school site, and each was required to agree in writing "to hereafter furnish suitable and sufficient school buildings and model and practice schools in connection with the training departments of said Normal Schools."

The total annual cost to Boston, as shown above, of maintaining the Normal School is about \$40,000, without allowing for repairs, interest or depreciation, as the city pays a little more than one-third of the state

tax (last year the rate being 34.18 per cent), and the approximate saving by transfer to the state would not exceed \$27,000. This might easily be offset by its contribution through the state tax to the increased cost of an enlarged school.

A subcommittee of the School Board in 1898 made a long report upon the question of transfer, and gave the following reasons for opposing it (School Document 4 of 1898, page 15):

1. Because Boston's share in the financial support of a State Normal School for the metropolitan district would be as great as the whole expense of maintaining her own Normal School.

2. Because Boston would lose the direct control she now exercises over the scholastic and the professional training of nearly one-half of her teachers.

3. Because there is no reason to believe that a State Normal School would insist on any higher qualifications in scholarship for admission or for graduation than are now insisted on by the city Normal School, so long as the State School kept itself to the business of preparing teachers for the grammar and primary schools of its district.

4. Because, on the other hand, if the State Normal School should assume the function of preparing teachers for high schools, throwing its chief energy into that work and becoming an institution of something like collegiate rank, as has been forcibly suggested by the advocates of a change, then it would become necessary for Boston to maintain a city training school, as many cities and towns find it necessary now; and this city training school would be simply the city Normal School under a new name.

5. Because there is no reason to believe that by the establishment of a State Normal School Boston could escape the necessity of employing in her own schools a large number of beginners, nor that these beginners, even if they came in large numbers from other cities and towns, would differ materially in character, culture

and professional preparation from the beginners who now come from the city Normal School.

6. Because by keeping the training of teachers largely in her own hands the city can move easily and meet readily the demands for improvements and reforms in education. As drawing, music, kindergartening and physical culture have been greatly promoted in the schools through the direct agency of the city Normal School, so will nature work, manual training and other improvements be promoted, and have already, so far as limited facilities permitted, been promoted in the same way.

7. Because the Boston Normal School was established for the very purpose of "giving professional instruction to young women who intend to become teachers in the public schools of Boston," and it is a wise policy to encourage to a reasonable extent young women born and educated in Boston to enter the public-school service, while it would be unwise to discourage them.

The then superintendent, Edwin P. Seaver, was called upon to give his opinion and stated (Minutes of 1898, page 309):

He "had been steadily of the opinion that it would be an unfortunate mistake to give up the Normal School. If the state should establish a normal school in or near this city there would still be a need of special training for the better fitting of State Normal School graduates to teach in the Boston schools. Other cities, notwithstanding the existence of state normal schools, have found city training schools a necessity. And a city training school is only our Normal School under another name. The number of teachers now coming from outside the city is considerable, and, taking them grade by grade, the number of failures among them is about the same as among the graduates of our Normal School. The failures come mainly, not from lack of scholarship, but from defects of temperament and personality. These defects when serious are not removed by any sort of professional training."

Mr. George H. Martin, a former supervisor, now treasurer of the Board of Education, opposes the transfer on substantially the same grounds. He gives one especially strong reason; that "while in a general way the system of public schools in the state is uniform, yet there are local differences in the points of emphasis which differentiate the schools of one community from another. These local differences a state normal school must ignore. The city school can recognize them and can fit itself to the local conditions and local demands. The attempt to meet the needs of Boston in a state school would require the most delicate adjustment of the relations between the city and the state and would open the way to endless friction."

This recognition of local needs may easily be carried to excess, resulting in a narrow provincialism, and consequent injury to the schools; but under proper administration there need be no such danger.

The claim sometimes has been made by or on behalf of the Normal School graduates that Boston having furnished them with a gratuitous education is bound by that fact to furnish them with opportunities to teach. The validity of this claim is not recognized at present to the extent that it has been. It is now considered both in practice and theory that Boston schools are for Boston children. Normal School graduates are given preference in employment whenever and only when the interests of the schools will permit. The merit list is something more than a name. The time has gone by for anyone seriously to urge that the fundamental right of the community to secure, and of the child to be taught by a superior teacher, should be sacrificed to the philanthropical desire to give an inferior teacher, however worthy, the opportunity to earn a living.

5. STATE CONTRIBUTION.

Among those with whom I have consulted I have found no active support of the transfer to the state. It seems to be generally accepted that since the erection

of the Normal Group the matter is settled in favor of the school's retention by Boston. If, then, Boston is to have any relief it would seem to be through state contribution and this Mayor Fitzgerald's bill now before the Legislature is intended to accomplish. All other parts of the state are cared for by state schools. Springfield — through Westfield, Worcester, Lowell, Fitchburg, North Adams, Framingham, Salem, Bridgewater, and the Cape get the benefit of these really local institutions at state cost. It would seem as if the state might very well be asked to pay a portion of Boston's expense. The bill in its present shape (House No. 589) authorizes payment by the State Treasurer to the city treasurer, but does not make it clear that any part of the money when received shall be used for school purposes. It should be amended, so that at least two-thirds shall go to the school fund. The remaining one-third might very well be used to reimburse the city for its share of the state tax, otherwise the result of the transaction would be to increase the school fund at the expense of other city needs.

Respectfully submitted,

GEORGE A. O. ERNST.

APPENDIX II.

REPORT ON MECHANIC ARTS HIGH SCHOOL.

BOSTON, March 1, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—On November 29, 1910, your Honor sent to this commission a letter, a copy of which is attached hereto, in which you refer to the small sum received by the city from the Commonwealth for industrial schools and in which you submit the following question:

“May I ask your commission to consider whether by proper representations the State Board of Education might not be induced to extend the benefits of this subsidy to the Mechanic Arts High School, the cost of maintenance of which for the year 1909 was about \$100,000?”

Your Honor then proceeds to discuss the question thus laid before the commission, as follows:

“The term ‘independent industrial school’ in chapter 540 of the Acts of the year 1909 would seem to be applicable under a broad interpretation of the words to this particular school, and if such a construction should be accepted by the State Board of Education, the city would receive next year more than \$50,000.”

The question in your Honor’s letter was referred by the commission to the Director of the Bureau of Municipal Research, Mr. George A. O. Ernst, a copy of whose report is transmitted herewith.

Since the date of your letter, your Honor has introduced in the Legislature a bill (House Bill 828) seeking to have the Mechanic Arts High School of the City of Boston “considered an independent school for indus-

trial training," and thus to be entitled to state support, under chapter 505 of the Acts of 1906 and amendments thereto.

The words "industrial training" and "industrial education" have a very technical meaning as now defined by the State Board of Education, and the Mechanic Arts High School, as at present conducted, does not fit this definition. If a subsidy is to be obtained for the school from the state, its functions will have to be changed to conform to the standards of the state.

The State Board of Education and the Boston School Committee now have authority of law to make such changes, and so obtain a state subsidy if they deem it advisable. Therefore it seems that House Bill No. 828 is unnecessary, unless its purpose is to make an exception to the law relating to industrial school subsidies, and thus obtain a subsidy for the Mechanic Arts High School as if it were an industrial school. The commission submits that the making of such an exception would be to establish an expensive precedent, as other cities and towns might ask for similar exceptional subsidies, one-third of the expense of which would have to be borne by the City of Boston. It is also to be suggested that if the Mechanic Arts High School is transformed into an industrial training school, it is possible that there will be a substantial demand for the establishment of another Mechanic Arts High School to take the place of the one so abolished.

The commission answers your Honor's specific questions, as follows:

1. No legislation is required to change the character of the Mechanic Arts High School and so to obtain a subsidy.

2. The result of the enactment of House Bill No. 828 would establish an expensive precedent, and lead ultimately to increased instead of decreased expense to the city.

3. The commission is convinced that no such radical step should be taken except after careful study by our local school authorities of the problems involved, and with the full approval of the State Board of Education.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN F. MOORS,
Acting Chairman.

BOSTON, March 1, 1911.

THE FINANCE COMMISSION:

GENTLEMEN,— In accordance with your request I have investigated the situation in regard to the Mechanic Arts High School with special reference to the bill now pending before the Legislature (House No. 828) accompanying the petition of Mayor Fitzgerald, by which the Legislature is asked to declare the Mechanic Arts High School to be an independent school for industrial training, and to appropriate a sum of money towards its support. The bill reads as follows:

SECTION 1. The Mechanic Arts High School, in the city of Boston, shall be considered an independent school for industrial training, under the provisions of chapter five hundred and five of the acts of the year nineteen hundred and six, and acts in amendment thereof, and as such shall be entitled to be reimbursed by the Commonwealth under the provisions of said chapter, and of acts in amendment thereof.

SECT. 2. There shall be appropriated to be paid out of the treasury of the Commonwealth from the ordinary revenue for meeting the Commonwealth's proportion of the cost of the maintenance of said Mechanic Arts High School, the sum of thousand dollars.

SECT. 3. This act shall take effect upon its passage.

This bill seems to be unnecessary. If, in the opinion of the Boston School Board and the State Board of Education, it is wise to change the Mechanic Arts High School into "an independent school for industrial training," that object can be accomplished without further legislation under laws now existing.

By chapter 505 of the Acts of 1906 as amended (Acts

of 1909, chapters 457 and 540) to which the Mayor refers, any city, town or district may establish an "independent industrial school" provided that it is "approved as to location, courses and methods of instruction" by the State Board of Education, and "upon certification by the Board of Education to the Auditor of the Commonwealth that a city, town or district, either by moneys raised by local taxation or by moneys donated or contributed, has maintained an independent industrial school, the Commonwealth, in order to aid in the maintenance of such schools, shall pay annually from the treasury to such cities, towns or districts a sum equal to one-half the sum raised by local taxation for this purpose: *Provided*, that no payment to any city or town shall be made except by special appropriation by the Legislature."

If, on the other hand, the bill is interpreted as declaring that the school as at present conducted is an "independent industrial school" it ignores the definition of those words as laid down by the State Board of Education and is a complete abandonment of the theory upon which the recent legislation as to industrial education is founded. Its enactment in its present form would establish a dangerous precedent which other communities might follow, and in the long run might prove to be very costly to Boston. It undertakes arbitrarily to pick out one school from one city in the Commonwealth, usurps the functions which under existing law are intrusted to the State Board of Education, of approving "the location, courses and methods of instruction" and compels a well-nigh revolutionary change in one of the largest, most expensive and most important of the city schools.

The State Board of Education in a bill now pending before the Legislature defines industrial education as meaning "that form of vocational education which fits for the trades, crafts and manufacturing pursuits." The vocational side is paramount. The Mechanic Arts High School as at present conducted does not meet

this definition, as will appear from the following facts as to its origin and from the views expressed by various authorities.

In 1872 the Legislature passed an Act (chapter 86) authorizing cities and towns to establish "industrial schools," giving school committees power to prescribe the arts, trades and occupations to be taught therein.

In 1883 (School Document No. 4 of 1883, page 34) the then Superintendent of Schools in Boston, Edwin P. Seaver, made an elaborate and interesting report on "Industrial Education," recommending that the city "under the permissive statute now in force" should establish (page 45) "at some central point in the city one manual training school" which would not (page 46) "teach any single trade as would be done in an apprentice school; but its pupils would be so well grounded in the general principles of many trades that the specialties of each trade would be very quickly learned." He called especial attention (page 39) to the experiments which had been made in "the school of Mechanic Arts connected with the Massachusetts Institute of Technology in Boston and the Manual Training School of Washington University in St. Louis." He quoted from the catalogue of the latter school, "special trades are not taught; it is not assumed that every boy who enters the school is to be a mechanic."

In 1888 the City Council passed the following order:

"Ordered, That the School Board be requested to consider and report on the expediency of establishing a system of manual training in connection with the public schools of the city."

In compliance with this order a special committee on manual training schools was appointed by the School Board, and in its report (School Document No. 15 of 1889, page 4) this committee stated that it had "always thought that a school in manual training of the same rank as the English High School should be established," adding (page 8) "it is now nearly 255 years since our

city made provisions for the encouragement of the professions of divinity, law and medicine. In the opinion of your committee it is now full time for the encouragement of the latent industrial ability of our people."

To this report was appended an account by Superintendent Seaver of a visit made by him to St. Louis, Chicago and other cities for the purpose of studying the subject and a detailed plan for what he called a "mechanic arts high school, otherwise known as a manual training school."

In 1891 the committee on manual training, of which Samuel B. Capen was chairman, stated with emphasis (School Document No. 1 of 1891, page 7): "Let us not forget at the very outset that we ask not for a trade school, but for a manual training school. Both use tools, but the object is entirely different."

The school was first opened in 1893. The Massachusetts Institute of Technology had a short time before discontinued the High School of Mechanic Arts which it had been maintaining, and this was one of the strong arguments urged for the establishment of the new school.

After the school had been in operation eight years the Committee on Manual Training said (School Document No. 4 of 1901, page 34):

"It is important that the distinctive character and purpose of the school should be clearly apprehended. It is neither a trade school nor an institution peculiarly adapted to pupils of any particular class or social condition. Its special function is to furnish systematic instruction in drawing, and the elements of the mechanic arts, in addition to a thorough high school course in which mathematical and scientific branches predominate. The training which it gives is not less valuable to a boy who is to become a lawyer or a physician than to one who is to superintend a manufacturing establishment, or work at the bench. The many-sided activities of the school tend to reveal to boys their dominant powers and aptitudes, and lead them to a happy choice of occupation. It educates them not primarily to become mechanics, but to become men of intelligence and skill. It encourages industry, arouses ambition, and opens wide the avenues to success, usefulness and happiness. In an age charac-

terized by a marvellous development of industries based upon scientific and mechanical principles, when manual dexterity and a knowledge of mechanical processes are essential to success in numberless profitable employments, it is unnecessary to point out the great value of an institution which combines a good high school education with systematic training in the mechanic arts."

The first Finance Commission, having under consideration the advisability of enlarging the building, referred the matter to a special committee, consisting of Dr. Charles W. Eliot, Rev. Thomas I. Gasson, S. J., and Dr. Henry S. Pritchett, whose report was printed in Volume I., pages 72 to 80, of the reports of the commission. They said (page 74):

"It is not a trade school, nor does it send out young men who are likely to become journeymen in the various trades. Its purpose is to give, as the head-master has well said, a general education, with such training in the mechanical arts as will suggest to its pupils industrial pursuits. This purpose is an entirely different one from that of an industrial school or a trade school."

It is apparent from the foregoing that the words "industrial education" as used in the early days were not limited to purely vocational work, but were held to embrace manual training in the cultural sense, and that the Mechanic Arts High School was established and has grown up along lines which were well understood, and which differ materially from the present movement in vocational and industrial education.

The State Board of Education in its annual report for 1911 (page 51) says:

"There is every reason to believe that an attempt to carry on a program of vocational training in conjunction with a program of liberal studies will result in the demoralization of the vocational side of the work. In the minds of many people various forms of manual training are identified with industrial household arts and agricultural education. But experience has shown that manual training, while it is an important and

necessary feature of a program of liberal education, can play but a small part in the program of vocational training."

The Mechanic Arts High School has clearly met a popular demand and appreciation; it closed its first year with 158 pupils, but it soon outgrew its capacity of 400 pupils. A new building had to be erected to accommodate the constantly increasing application for admission. To-day it has an average attendance of approximately 1,200 pupils.

Authorities differ as to how far the school is fulfilling all its possibilities, and as to whether some changes should not be made in the curriculum, broadening its sphere of usefulness; but it is at least doubtful whether so complete a change should be made as would be necessary to bring the school within the definition given by the State Board of Education.

So far as these are educational questions they should be passed upon by the educational authorities, viz., the Boston School Board and the State Board of Education; but they have a distinct financial side, which should not be overlooked.

Boston pays approximately \$100,000 annually for the maintenance of the Mechanic Arts High School. If the School Board were to receive from the state one-half of this amount, viz., \$50,000, the city must repay to the state from the general tax rate approximately one-third in the form of an increased state tax. The net result would be a contribution to the school fund of about \$35,000 by the state and \$15,000 by the city from its other than school revenue. The immediate saving to the city would be about \$35,000. If the precedent established were followed by other cities not only would this saving be entirely lost, but the expense to the city would be increased by a further increase in the state tax.

To fit the school to the requirements of the State Board of Education many expensive changes would have to be made in the building and its appointments as

well as in the courses of instruction. There would have to be either a decrease of pupils or a substantial increase in the teaching force, for the quota of scholars to teachers established by the State Board of Education in industrial schools of this kind is 15, whereas the present quota is, under the rules of the School Board, 35, or in fact about 32. The same number of pupils therefore would require more than double the number of teachers, with a consequent doubling of the salary list. The present salary list is about \$75,000 per annum; if doubled, this would mean an additional cost to Boston of one-half the increase (\$37,500), together with approximately one-third of the remaining one-half, or about \$50,000 in all, which of itself is more than the apparent saving.

The year after the school was opened the Legislature passed a law which is still in force (Acts of 1894, ch. 471), requiring every city of 20,000 or more inhabitants to "maintain as part of its high school system the teaching of manual training." The Mechanic Arts High School meets this requirement. Should it be changed to an exclusively independent industrial school, within the meaning given to "industrial education" by the State Board of Education, the statute requirements as to manual training in high schools might have to be met in some other way, at an additional cost to the city. It has of course been established already in some high schools, although not sufficient to meet the popular demand.

In view of all the facts it would seem unwise for the Legislature to enact the bill which the Mayor has presented, at least in its present shape. The whole matter of the future of the Mechanic Arts High School should be left to the Boston School Board and the State Board of Education under the law as it now exists. There should be more public discussion of the subject before so radical a change should be adopted.

Respectfully submitted,

GEORGE A. O. ERNST.

CITY OF BOSTON,
OFFICE OF THE MAYOR, November 29, 1910.

HON. JOHN A. SULLIVAN,
Chairman Finance Commission,
Tremont Building, Boston:

DEAR SIR,— Under chapter 530 of the Acts of the Massachusetts Legislature for 1910 a sum of money amounting to \$24,229.02 was distributed among certain cities and towns of the Commonwealth which had established industrial schools. Of this sum Boston received only \$3,197, being, as we understand, one-fifth the cost of operation of the Evening Industrial School. We are informed that this payment was made under chapter 505 of the Acts of 1906, but that chapter 540 of the Acts of 1909 will go into operation from about July 1 of the present year. This act provides that one-half the cost of maintenance of industrial schools is to be defrayed by the Commonwealth and it is expected that not only the Evening Industrial School but the Trade School for Girls will come under its provisions.

The percentage of this subsidy, if such a term is applicable, which Boston received in 1910, amounting to barely one-eighth of the whole, is out of all proportion not only to its contribution to the state tax, which amounts to nearly three-eighths, but also to its activities in the field of industrial education, which we have understood to be rather extensive.

May I ask your commission to consider whether by proper representations the State Board of Education might not be induced to extend the benefits of this subsidy to the Mechanic Arts High School, the cost of maintenance of which for the year 1909 was about one hundred thousand dollars.

The term "independent industrial school" in chapter 540 of the Acts of the year 1909 would seem to be applicable under a broad interpretation of the words to this particular school, and if such a construction

should be accepted by the State Board of Education the city would receive next year more than fifty thousand dollars.

It would seem that this question might properly be considered as a part of the study which your commission is making of the school system of Boston in its economic and financial aspects.

Awaiting your views, I remain,

Yours very truly,

JOHN F. FITZGERALD, *Mayor.*

APPENDIX III.

REPORT ON SALARIES OF ELEMENTARY
SCHOOL TEACHERS.

April 8, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On April 1, 1911, the Finance Commission received a communication from your Honor asking the reasons for the commission's recommendation to the Legislature of an increase in the amount the Boston School Committee is now authorized to appropriate so as to make the appropriations sufficient to permit an increase in the salaries of teachers; and also inquiring as to why the commission has not yet reported the results of its investigation of the management of the public schools.

The commission respectfully submits herewith the information desired.

I. THE PROPOSED INCREASE OF TEACHERS'
SALARIES.

The commission on March 29, 1911, sent a communication to the Legislative Committee on Cities recommending legislation which would increase the appropriation for the support of the Boston public schools in the sum of ten cents for the first year, and for each succeeding year in the sum of twenty cents, upon each one thousand dollars of valuation on which the appropriations are based, for the purpose of enabling the School Committee to provide more adequate salaries for teachers in the elementary and certain other grades of the public schools.

Before this communication was sent the commission had been informed that your Honor had agreed with

the School Committee that some means ought to be provided for increasing salaries of teachers in elementary grades; that a plan had received favorable consideration, which would leave the School Committee free in the present year to use the \$67,000, which otherwise would have been needed to pay its water tax (but which your Honor is said to have agreed to remit), for the increase of elementary teachers' salaries, the installation of water-saving devices in the schools, and the repair and alteration of school buildings — \$40,000, \$17,000 and \$10,000, respectively, to be used for these purposes; and that it was also agreed that further increases in teachers' salaries should be made if the present Legislature should authorize an increase in the amount the School Committee is permitted to appropriate for the support of the schools.

The commission had also learned before it sent its communication to the legislative committee that the School Committee, which is obviously the best judge of the adequacy of teachers' salaries, had decided to favor an increase for next year of ten cents, and for each year thereafter twenty cents, on each one thousand dollars of valuation upon which the appropriations are based, the object being to devote the greater part of the additional appropriation to an increase of the salaries of the teachers in the elementary schools from the present minimum of \$552 a year and maximum of \$936 a year to a minimum of \$600 and a maximum of \$1,032, and, if it should appear that the public interests require it, to make corresponding increases in the salaries of other and smaller groups of teachers so as to preserve just proportions in the entire schedule.

The commission attached great weight to this decision of the School Committee, knowing that it had given the subject long and careful study, and had considered the financial condition of the city, the justice of the teachers' demands, and the interests of the children in the public schools. Independently of the decision of the School Committee, the commission would have

been strongly inclined to favor the increase as a result of its own investigations of the school system.

REASONS FOR THE COMMISSION'S RECOMMENDATION.

1. *Existing Inequalities in Compensation.*

The commission has long been aware of the inequality in the compensation of the large number of elementary school teachers, who are paid a minimum of \$552 and a maximum of \$936, and that of other employees of the city, including those in the Suffolk County departments, an inequality not fully appreciated except by those familiar with the actual conditions of the municipal service. The service that a faithful and efficient school teacher renders to the community is of the greatest importance, yet it would seem that no other class in the city's employ is so poorly paid, considering the value of the services performed.

It is not necessary to make a detailed comparison of the salaries of men in various branches of the city's service and the salaries of its women school teachers; it is sufficient for the present to note that gross inequalities exist. A comparison of the salaries of the women teachers who receive a minimum of \$552 and a maximum of \$936, and who constitute about two-thirds of the entire teaching force, and the salaries of women in other branches of the public service is more pertinent. Here the inequality is substantial. Of the 162 women clerks rated as clerks, clerical assistants, recorders, comparers, pagers, etc., in various city and county departments, only eleven receive less than \$600 a year. One of the eleven receives \$500, three, \$520 each, and one, \$550; the other six receive \$580, or \$28 more than the minimum (\$552) paid to the school teachers in question. The other 151 women clerks receive between \$600 and \$1,500, the highest pay being \$564 more than the maximum pay of the teachers after eight years of service. Forty-seven of the women clerks receive more than the maximum paid to school teachers, and

six others receive an amount equal to the teachers' maximum. A number of those rated as clerks are engaged in the simplest kind of work, such as copying, and some of these copyists receive between \$1,000 and \$1,200 a year, the latter figure being \$264 more than the teachers' maximum.

Of the thirty-six women rated as stenographers, there are four court stenographers who receive \$2,500 a year each, but the salaries of these four highly skilled stenographers do not afford a just basis of comparison with the salaries of the school teachers in question. Of the other thirty-two stenographers, one receives \$364 a year, one, \$520, and thirty receive more than the teachers' minimum of \$552, the payments ranging between \$580 and \$1,500, the lowest being \$28 above the minimum and the highest \$564 above the maximum of the teachers.

Of the eight women employed as secretaries or assistants, one receives \$1,740, two others over \$1,000 and the rest receive less than \$1,000 a year. None, however, receive less than \$700 a year, or \$148 more than the school teachers' minimum.

The five women rated as bookkeepers receive from \$780 to \$1,560 a year, all being above the teachers' minimum, and three above the teachers' maximum.

The twenty-four women rated as printers, including compositors, copyholders, operators, proofreaders and linotype operators, receive compensation ranging from \$955 to \$1,300 a year, the minimum and maximum being greater by \$403 and \$364, respectively, than the compensation of the school teachers. Eighteen of the twenty-four printers receive more than the teachers' maximum.

The eight women rated as visitors receive from \$750 to \$1,100 a year, the lowest being \$198 above the minimum, and the highest \$164 above the maximum of the school teachers. Four of the eight visitors receive more than the teachers' maximum.

The foregoing shows inequalities indefensible from

any just point of view. The commission believes that if the value of the service rendered should be made the standard by which to fix compensation, as it ought to be, the salaries of the teachers would be increased and that of many employees of the city would be reduced. The commission does not base its recommendation for an increase in the school teachers' pay upon the fact that other employees of the city whose services are less valuable receive greater compensation, nor upon the fact that the salary schedule, fixing the teachers' pay at a minimum of \$552, with a maximum of \$936 after eight years' service, was established in 1896 and has since been maintained without change, though the cost of living has greatly increased meanwhile, but it makes its recommendation upon the ground that the school teachers, under the conditions confronting them to-day, dealing as they do with large and widely varying classes of children, and performing a task which makes large drafts upon their nervous energy, render a service to the community of greater value than is represented by the purchasing power of the money they receive. In arriving at this conclusion due allowance has been made both for the smaller number of days of actual attendance at the schools as compared with the number of working days of other city employees, and for the time necessarily devoted by the teachers to school work and study after school hours, in the holidays and during vacation time.

2. *The City's Ability to Pay the Increased Salaries.*

Believing that justice requires the increase, the commission thinks it should be given even though it should necessitate an increase in the tax rate. But if economy is practised the tax rate need not be increased. The total amount required to meet the increase can easily be saved if the following suggestions are adopted:

A. *Dispense with all Superfluous Employees.*— This recommendation does not mean that day laborers of long service, who are incapacitated by age, should be

removed. The expense due to their retention can be gradually reduced by declining to fill vacancies resulting from natural causes.

B. Reduce the salaries of the city's clerks and employees above the grade of clerks to a basis nearer the level of the compensation paid by the state.

As shown in the commission's last annual report to the General Court, these salaries are 50 per cent higher on the average than the state pays for similar service.

C. Gradually reduce the size of the city's maintenance forces in the Department of Public Works and extend the scope of the contract work correspondingly.

3. *Possible Economies in the School Expenditures.*

Can the Schoolhouse and School Departments by the practice of economy save enough to meet the proposed increase in teachers' salaries without increasing the appropriations now authorized by law? If they can the request for authority to increase the appropriations should not be granted.

A. *The Schoolhouse Department.*

Under the new system of erecting schoolhouses, a considerable amount of the initial expense formerly incurred in using the method of first-class construction, so called, is saved; and if the present system is maintained considerable sums will be saved hereafter, unless the new system shall prove to be more expensive than the former system as to the repairs subsequently required. Economies may be effected also if public competition for contracts for repairs and alterations of school buildings, for even comparatively small amounts, is substituted for the present method of awarding such contracts. The report of the expert employed by the commission shows that a considerable number of these smaller contracts were let last year without public advertisement for bids. It is possible, also, that other economies can be effected by the Schoolhouse Department, but the commission is not yet prepared to speak definitely upon

this subject. If these various economies are effected the appropriations, and the tax rate to a corresponding degree, can be reduced.

Yet none of the economies now being effected by the Schoolhouse Department, or that may be effected hereafter, can be utilized to create a fund out of which school teachers' salaries may be increased, as under the statute (1909, chapter 388, section 1) the School Committee must appropriate solely for new school buildings, lands, yards and furnishings, an amount not less than 40 cents on each \$1,000 of the valuation upon which appropriations are based, and must also appropriate solely for repairs and alterations of school buildings an amount not less than 25 cents on each \$1,000 of such valuation; and, in the opinion of the commission, none of the money appropriated for such purposes can lawfully be used for any other purpose.

B. *The School Department.*

Discontinuance of Certain Branches of Instruction.

If the public should demand the abolition of kindergarten, cooking, sewing, drawing and music classes, physical education and manual training, a considerable sum would be available for the increase of the salaries of the remaining teachers. But the commission has seen no evidence of any general demand for the abolition of any of these courses; on the contrary, each is stoutly defended by numerous advocates. Moreover, the School Committee has no present intention of abandoning any of these courses. The commission, therefore, regards the possibility of thus saving money and applying it to the proposed increase of teachers' salaries as too remote to be of any material value in connection with the question now under consideration.

Reduction in the Cost of Administration.

The School Committee spent last year \$3,995,237.66, exclusive of the cost of land and new buildings, repairs and alterations, rental of hired school accommodations,

and teachers' pensions. Wherever the phrase "total expenditures of the School Committee" is used hereinafter it means the \$3,995,237.66 above referred to.

Taking the cost of administration as fairly represented by the total payments to the various officers of the public schools, their assistants and the truant officers, it appears that the amount expended for this purpose last year was \$106,730.54, or 2.7 per cent of the total expenditures of the School Committee. This does not seem an unreasonable expenditure for administration and the commission doubts whether it can be reduced with justice to the administrative force or to the school system. Further investigation may possibly show ways of economizing with safety, but even in that event the total saving must necessarily be so small as to make it a negligible factor in the attempt to secure, within the present authorized school appropriations, the proposed increase of the salaries of a large number of elementary teachers.

Reduction in the Cost of Janitors' Service.

The amount spent last year for the salaries of janitors was \$253,270.94, or 6.3 per cent of the total expenditures of the School Committee. The payments to janitors are based upon rates for various kinds of service, under a schedule adopted in 1904 as the result of careful investigation by the School Committee. It does not give satisfaction to the janitors now, as they think the rates too low. Whenever it is revised it is more likely to be upward than downward. If any reduction should be made it would necessarily be so small as to furnish little aid in the plan to increase teachers' salaries. The commission believes that no attempt should be made to reduce it.

Reduction in the Cost of Physical Education.

The amount spent for this purpose last year was \$67,434.57, or 1.6 per cent of the total expenditures of the School Committee. As already stated, this course is not likely to be abandoned. Even if the School Com-

mittee should decide to discontinue this service, legislative authority for the discontinuance would have to be procured, as the service is required by chapter 295 of the Acts of 1907. While physical education remains a feature of public school instruction the entire amount authorized by law to be expended for the purpose (four cents on each one thousand dollars of valuation) will in all probability be expended. Moreover the commission is of the opinion that any saving in the cost of physical education could not lawfully be applied to the increase of teachers' salaries, as the statute directs that appropriations for physical education shall be made "solely" for that purpose.

Reduction in the Salaries and Expenses of School Nurses.

Last year there was expended for this purpose \$27,-220.06, or six-tenths of one per cent of the total expenditures of the School Committee. There seems to be no feasible way in which the School Committee can accomplish a reduction of its expense for this item. If the nurses should be transferred to the Health Department and the School Committee should retain its appropriating power undiminished, the money now utilized by the School Committee for the nurses' salaries and expenses would then be made available for increasing school teachers' salaries. But if the Legislature should authorize the transfer it would undoubtedly take from the School Committee the power given by chapter 357 of the Acts of 1907 to appropriate money for the nurses. Thus, the School Committee's fund would disappear and with it the possibility of saving. The commission, therefore, sees no opportunity in this quarter for providing a fund available for increasing school teachers' salaries.

Reduction in the Cost of Supplies and Incidentals, Including Text-Books.

The amount expended last year for this purpose was \$210,035.03, or 5.2 per cent of the total expenditures

of the School Committee. The expenditure for text-books was \$65,020.49. The amount which may be appropriated for these purposes is not fixed by law, but it is confined to narrow limits by other virtually fixed charges against the general appropriation for the support of schools, such as officers', teachers', and janitors' salaries, and fuel and light. The necessity for economy in the purchase of supplies and incidentals has been so great at times as to cause the furnishing of a poor quality of paper to the pupils in the schools, and to make the janitors use brooms and brushes after they had become practically useless. The school supplies, such as paper, blotters, ink, pens, pencils, etc., have been purchased under a system which the expert employed by the commission believes could be improved in some particulars; but he heartily commends the care exercised by the purchasing agent and states that the prices have been astonishingly low. The commission believes that the average annual expenditure for supplies and incidentals should be increased rather than diminished, and that no reduction in quantity or quality should be made in order to provide a fund for the increase of teachers' salaries.

The commission, at its public hearings, heard complaints to the effect that text-books were sometimes retained in use for so long a period that they had become practically useless. Some much worn and dilapidated books were put in evidence at one of the hearings. The commission believes that enforced economy has in some instances prolonged the use of text-books to an extent that endangered, if it did not actually impair, the efficiency of the instruction.

The text-books have been bought by the purchasing agent at the lowest prices he could obtain and he has been successful in securing liberal discounts on old books which have been returned. The commission's opinion is that the purchasing agent has obtained the best results possible under the system in vogue as to the purchase of text-books; and it has no doubt that

he has at all times performed his duties faithfully, honestly, and with strict regard for economy. Means of improving the system have been suggested, and the consideration of such means is desirable, as Boston pays more for text-books than some other cities which, unlike Boston, purchase on long term contracts. The amount annually expended for text-books is, however, so small that any possible saving effected would not go far enough towards meeting the proposed increase of teachers' salaries to warrant a reduction in the extra allowance asked for in the pending legislation.

Reduction in the Cost of Fuel and Light.

The amount spent for these purposes last year was \$157,446.77, or 3.9 per cent of the total expenditures of the School Committee. The possibilities of economy in these particulars are limited to a narrow compass.

The School Committee purchases its coal on contracts, awarded after public advertisement for bids. The contracts for bituminous coal provide for a chemical analysis and for the payment of premiums or the deduction of penalties according as the quality is found by the chemist to be above or below the standard defined in the contract. The contracts for anthracite coal do not provide for chemical analysis, but do require the dealer to specify in his proposal the mines from which the coal is to be taken, and the proposal is made a part of the contract. The expert employed by the commission has examined the coal contracts and the expenditures thereunder for the four years, 1906-09, inclusive, and he states that the results indicate that the city's financial interest have been well protected.

The School Committee has made numerous efforts to procure lower rates from the electric light company, but so far without success. Unless the electric light company reduces its rates or the School Committee provides a cheaper lighting system of its own but little economy can be effected in the cost of lighting.

The commission believes that economies in fuel and

light are speculative and cannot be counted upon to add to the fund available for the payment of teachers' salaries.

The Need of Additional Appropriations.

The total expenditures of the School Committee last year were \$3,995,237.66. Of this amount \$3,173,099.75, or almost four-fifths of the whole, was expended for teachers' salaries, and \$822,137.91, or slightly above one-fifth, for other purposes. It would be impossible to economize sufficiently in the branches which consume one-fifth of the total expenditures to enable the School Committee to increase substantially teachers' salaries, which now consume four-fifths of the total expenditures. Nor could the proposed increase in teachers' salaries be met by the additional amounts made available by increased valuations under the present statutory limitations upon the appropriating power, as such additional amounts will be needed to meet the automatic annual increases under the existing minimum and maximum schedule, the demand for a more liberal allowance of supplies, and the increased cost of other branches of school administration due to the increase in the number of pupils. There is no practical way of effecting the proposed increases except through a grant of legislative authority to increase the amounts which may now be appropriated under the statutes.

SUMMARY OF CONCLUSIONS.

1. That the teachers are entitled, on account of the value of their services, to increased compensation.
2. That the proposed increase of teachers' salaries cannot be effected by reductions in the expenditures of the School Committee without detriment to the school system as a whole.
3. That the only practical way to effect the increase is by securing legislative authority to add to the School Committee appropriations next year an amount equal

to 10 cents upon each \$1,000 of the valuations upon which appropriations are based, and 20 cents for the succeeding years.

4. That the increase in the appropriations need not cause any increase in the tax rate if economies in other departments are effected, as previously herein suggested.

II. THE COMMISSION'S DELAY IN FILING A REPORT UPON ITS INVESTIGATION OF THE SCHOOLS.

The request for an investigation was made on March 17, 1910. The reason for delay will be apparent to your Honor upon an examination of the long list of questions referring to other matters submitted to the commission by your Honor after the date of the request for the school investigation. Assuming that your Honor may have overlooked this list, or may have failed to consider the time necessary to be devoted to the important questions thus subsequently referred, the commission annexes hereto the list with a request that your Honor note that reports have already been submitted upon twenty of the twenty-eight questions thus referred and that the time spent in this manner has excluded the possibility of completing a task of such magnitude as the investigation of the public schools.

Respectfully submitted,

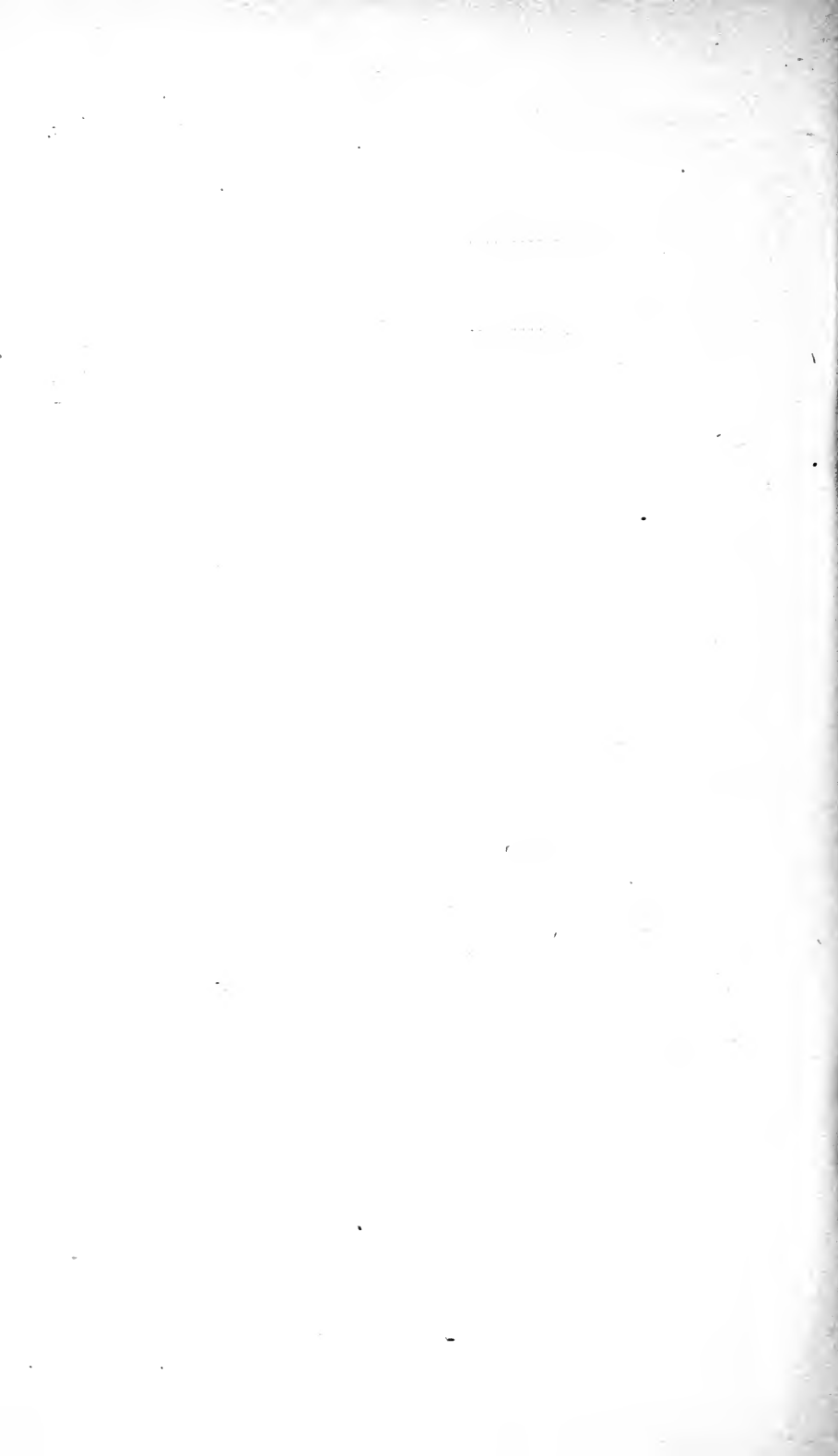
THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

REQUESTS FOR INVESTIGATION BY THE MAYOR OF BOSTON.

DATE OF REQUEST.	Date of Report or Communication.	Subject.
March 17, 1910.	.....	Methods of School and Schoolhouse Departments.
May 25, 1910.	July 14, 1910.	Certain charges against two officials of Health Department.
Aug. 17, 1910.	March 22, 1911.	High pressure water service.
Aug. 17, 1910.	March 22, 1911.	Laws relating to wharf construction.
Aug. 17, 1910.	March 22, 1911.	Creation of reserve fire signal station.
Aug. 17, 1910.	March 22, 1911.	Adequacy of present building laws.
Aug. 17, 1910.	March 22, 1911.	Increase in membership of Fire Department.
Aug. 17, 1910.	Sept. 15, 1910.	Reasonableness of the charges of the architect for services on reconstruction of Curtis Hall.
Sept. 3, 1910.	Sept. 15, 1910.	Proposals for sites for a new schoolhouse in the Lewis District.
Sept. 17, 1910.	Feb. 16, 1911.	Economic and social problems involved in report of the chairman of the Consumptives' Hospital Department.
Sept. 24, 1910.	Feb. 1, 1911.	Transfer to the state of Suffolk School for Boys.
Sept. 24, 1910.	Feb. 25, 1911.	Transfer to the state of Boston Normal School.
Sept. 24, 1910.	Feb. 16, 1911.	Transfer to the state of Consumptives' Hospital Department.
Sept. 24, 1910.	Sept. 26, 1910.	Prosecution of a former deputy collector for alleged defalcation.
Sept. 28, 1910.	Nov. 19, 1910.	Relieving Boston of part of cost of water bridges in or about Boston.
Oct. 3, 1910.	Oct. 4, 1910.	Devising a means for taxing the unearned increment of land.
Oct. 11, 1910.	Dec. 8, 1910.	Construction of part of Washington street, West Roxbury, as a state highway.
Nov. 9, 1910.	.....	Construction of artificial stone sidewalks in Boston.
Nov. 29, 1910.	March 1, 1911.	Contribution of state to support of Mechanic Arts High School.
Nov. 29, 1910.	.....	Fixing of a schedule of fees for permits for erecting signs, etc., in and over the streets of the City of Boston.
Jan. 18, 1911.	.....	Investigation of the flour contract of the Penal Institutions Department in particular, and in general the substitution of goods of lower grade than the standard.
Jan. 28, 1911.	.....	Proposed increase of salary of George S. Burgess of the School Department.
Feb. 9, 1911.	March 23, 1911.	Investigation of the nonpayment of taxes for the years 1908 and 1909 by the Quincy A. Shaw estate.
Feb. 16, 1911.	.....	Reduction in schedule of charges for electric lighting to the City of Boston by the Edison Electric Illuminating Company.

REQUESTS FOR INVESTIGATION BY THE MAYOR OF BOSTON.—*Concluded.*

DATE OF REQUEST.	Date of Report or Communication.	Subject.
March 27, 1911.	.....	Certain transactions relating to the transfer of the property of the Museum of Fine Arts to the Copley Square Trust.
March 29, 1911.	March 31, 1911.	Further use of schoolhouses.
April 1, 1911.	.....	Alleged combination among manufacturers to raise prices above their normal level.
April 1, 1911.	April 8, 1911.	Increase in the salaries of elementary school teachers.



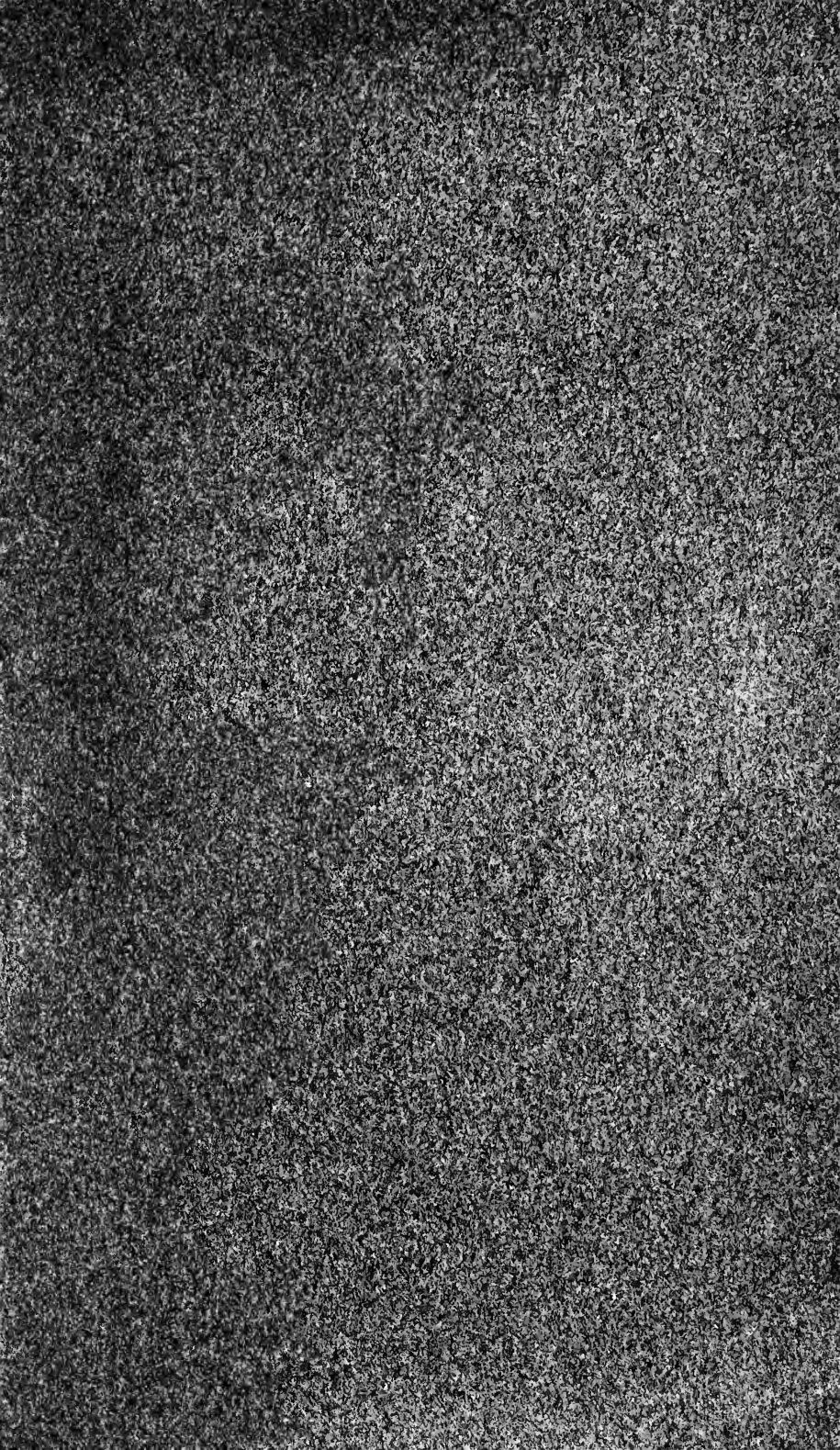
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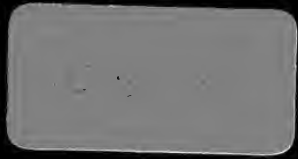
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