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An historical study of school health education in Massachusetts from the colonial period to the first world war

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Dissertation

AN HISTORICAL STUDY
OF SCHOOL HEALTH EDUCATION
IN MASSACHUSETTS
FROM THE COLONIAL PERIOD TO THE FIRST WORLD WAR

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FOREWORD

History becomes a science when its direct aim is the attainment of truth.

"If the knowledge of the past is a necessity, it must be taught to each generation; before it can be taught, it must be written. This reconstructed experience of the past, if it is to be valuable, must be full, detailed and above all exact. Hence, the first consideration in an historical narration is... truth."[1]

From whatever angle we approach an historical problem, its fundamental characteristic is that its data are drawn wholly from the past.

"The historical method and approach, therefore, envisages the reconstruction of the past in the light of the present and the interpretation of the present structure and organization of society based upon an analytical study of the past through the analysis and interpretation of records."[2]

The writer has not witnessed the original events, but from such sources as documents and remains has attempted to reconstruct the historical past which has influenced the development of public school health education in Massachusetts. Historical knowledge is essentially indirect knowledge since the materials of history can seldom be studied at first hand. A detailed examination of documentary


evidence, basic for scientific validity, constitutes the foundation of this narrative.

"The 'historical,' or indirect, method is thus obviously inferior to the method of direct observation; but historians have no choice: it is the only method of arriving at past facts, .... in spite of disadvantages, it is possible for this method to lead to scientific knowledge."  

Let us now view the approach to our narrative. The work is not merely a record of events as assembled through a study of documentary evidence, but an attempt 1) to present in a connected way the origin, growth and development of school health education in Massachusetts; 2) to analyze significant trends through a careful weighing of the various factors which affected development and progress; and 3) to indicate a desirable course of action in solving the many school health problems discussed.

The need for a study of this type is apparent if one is to understand and appreciate the increasing importance of child health, the efforts that have been made by various groups and individuals to protect the children of the nation, and the vast amount that remains to be done in the field of school health education.

The treatment of the problem goes back to the time when Massachusetts became a recognized state of the Union, with an incidental review of the Colonial Period.

The unified topics for general discussion in this dissertation are:

Part I. The Background of Health Education in the Schools of Massachusetts

Part II. The Groundwork in Health Education in the Schools of Massachusetts--1830-1865

Part III. The Great Awakening--A Period of Scientific Progress in Health Education in the Schools of Massachusetts

Part IV. The Broadening Scope of Health Education Through Legislation--1900-1915

Part V. Conclusion

To produce a history of health education in the schools of Massachusetts is a great undertaking. Few states in the Union have had a richer and more varied experience in the field of education in general. This is an attempt to explain the connection between the history of health education and the institutional efforts of the State of Massachusetts in the matter of training the young; to set forth this study of health education as an evolving series of events from which the recent advances in educational practice and procedure have had their origin; and to make clear the relation between the great social and industrial changes and the expansion of Massachusetts in the field of school health education.

The school health education movement is now emerging from its initial developmental stages. Considerable progress has taken place in the development of methods for the evaluation of health instruction and health education.
Newer procedures in health knowledge, attitude, and status of individuals are in the process of development. Consequently, we should begin an historical consolidation of the ground that has been gained and extend the worthwhile accomplishments to all.
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PART I

THE BACKGROUND OF HEALTH EDUCATION IN THE SCHOOLS OF MASSACHUSETTS

1. The Colonial Period
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PART I
THE BACKGROUND OF HEALTH EDUCATION
IN THE
SCHOOLS OF MASSACHUSETTS

1. The Colonial Period

Educational evolution, like industrial and social progress, is not uniform, but irregular; it advances now rapidly, now slowly. During the early Colonial Period education was fostered primarily on the ground of religious necessity.

It was not long after the arrival of the Massachusetts Bay Colonist (1630) that plans were formulated for an educational system. As would be natural, the inherited traditions of Reformation times remained strong in the American colonies to the extent that it was generally considered proper that education was a function of the churches. The intense struggle for survival left little time for books or the pursuit of brilliant intellectual achievements that contemporary Europe experienced. Education was primarily in the handicraft or household stage of development and confined to a narrow range of subjects. The parents were the teachers or the private tutors. Not until the local environment was broadened did education expand beyond this rudimentary stage.

"Elementary education of the seventeenth century
was narrow in scope and meager in content. Teaching methods were primitive.\textsuperscript{1}

"As to what was taught in the common schools of the seventeenth and eighteenth centuries little need be said except that the main concern was to teach children to read, and that mainly with reference to religious uses and in books of devotion. Writing was taught incidentally to reading and spelling, and some attention was given elementary arithmetic.\textsuperscript{2}

"In the American colonies the main type of schools existing were dominated by the same deep religious purpose.

"The dominance of this religious purpose in all instruction is well illustrated by the great beginning-school book of the time \textit{The New England Primer}.

"One learned to read chiefly that one might be able to read the Cathechism and the Bible.\textsuperscript{3}

The men who first settled Massachusetts had a deep-rooted conviction that education was the birthright of the individual and the basis for social worth. To that end, in the year 1642, the colonists represented by the General Court passed their first legislative enactment in regard to the general education of its people. This act charged the Selectmen in all the towns to see that parents and masters provided for the education of their children, to the extent


of teaching them to read and understand the principles of religion and the capital laws of the country. They also considered it to be a fundamental truth that the youth should be subjected to that form of discipline which would best fit them for their place in life.

"ACT of 1642--June 14: This Court, taking into consideration the great neglect in many parents & masters in training up their children in learning & labor, & other employments wch may be profitable to the common wealth, do hearupon order & decree, that in every towne the chosen men appointed for managing the prudential affaires of the same. . . . shall have power to take accompt from time to time of their parents & masters, & of their children, concerning their calling & implement of their children, especiallity of their ability to read & understand the principles of religion and the capital laws of the country, & to impose fines upon all those who refuse to render such accompt to them when required,... 1/

It is evident that the law of 1642 did not establish free public schools, nor prescribe healthful surroundings, nor the erection of sanitary schoolhouses, but it was an important beginning toward the organization of free public schools, supervised by the state, to supply the means of a system of popular instruction.

After a trial of five years, under this law, the government of the Colony enacted the law of 1647 by means of which the Massachusetts system of public schools became free as well as compulsory.

"The law of 1647 is the legal foundation of the Massachusetts system of free public schools. An analysis of the law will suggest the fundamental principles upon which the enactment rests:

1st. That education is necessary to good morals and free institutions.

2d. That the state, in the exercise of its sovereign power, has the right and it is its duty to require the towns within its jurisdiction to maintain a sufficient number of schools for the suitable instruction of all the children belonging to the towns.

3d. That towns of a sufficient number of families may be required to maintain secondary schools in which the pupils may be fitted to enter the university or to perform with intelligence the duties of practical life.

4th. That the towns may be required to maintain free public schools, and support them by a general tax."

These new ideas concerning the necessity and value of universal education made compulsory and free are found in the preamble to the law of 1647.

"It being one chief project of that could deluder, Sathan, to keep men from the knowledge of the Scriptures, as in former times by keeping them in an unknown tongue, so in these latter times by persuading from the use of tongues, that so at least the true sense and meaning of the originall might be clouded by false glosses of saint seeming deceivers, that learning may not be buried in the grave of our fathers in the church and commonwealth, the Lord assisting our endeavors."
Prior to this law of 1647 we find that the movement to establish schools had begun with the founding of the Boston Latin School in 1635. A number of Massachusetts towns followed the leadership of Boston and voluntarily set up schools of their own.

"The 'Latin School' at Boston dates from 1635, and has had a continuous existence since that time. The grammar school at Charlestown dates from 1636, that at Ipswich from the same year, and the school at Salem from 1637."¹

"The first town school in Salem of which we have any record was organized in 1637, but it does not appear to be recognized by the town until 1640.

Charlestown established a school in 1636,....

A grammar school was set up in the town of Ipswich in 1633, but it was a private institution until 1644.

How early the grammar school at Cambridge was established does not appear, but.....it was there in 1643, 'a faire grammar school by the side of the College.'

On the 30th of May, 1639, the town voted to lay a tax of $50.....for the maintenance of a school in Dorchester."²

During this early period records concerning the schools are not sufficient in themselves to establish clearly that the preservation of health was a major concern of the colonists.


²William T. Davis, Editor, op. cit., pp. 1838-1839.
"The first school returns ever made to the Commonwealth of Massachusetts were rendered in the year 1826 when one hundred fifteen towns made returns.

The Massachusetts State Board of Education was established April 20, 1837.1/ Lack of sufficient records concerning school health matters does not mean absence of certain health standards. However, it is not too presumptuous to assume that in Colonial times attention was given primarily to the imparting of knowledge rather than to conditions under which the knowledge was imparted.

"No print or black-board or map or motto adorned the grimy, blackened walls of those primitive colonial school-houses, in which the New England Primer was the earliest textbook, but within their narrow limits were crowded scores of children of both sexes and of every age."2/

In colonial America health was not as carefully guarded as it is today. Superstition, ignorance of hygiene, lack of proper sanitation, together with incompetent medical assistance were responsible for a high death rate. Disease and epidemics often took heavy tolls, and the science of


medicine was not sufficiently advanced to remove the causes or to perfect cures. Strange medicines were prescribed in addition to many home remedies. Various herbs, and earthworms, bugs, snakes, and toads, judiciously prepared with wines and spices, were remedies kept in the homes and given to the sick. Not only did doctors prescribe medicines, but a frequent treatment was bleeding or sweating—which in some cases really cost a patient his life. The training of a doctor was not rigorous; there were no medical colleges and no government regulation.

"The mortality of colonial children was very high due doubtless to the exposure to the rigors of climate, the opportunity for contagion in the crowded homes and meeting houses and the absurd form of medication of the period.

Rickets was common throughout the colonies, treated generally by an extract from snails. Some of the children wore necklaces of amber or wolf's fangs to ward off disease; roses, licorice and vipers were resorted to as a basis for some popular medicines. Naturally, the children who survived this Spartan test were strong and ready for the rugged life of the day."1/

A manuscript found in the collection of Winthrop Papers contained a list of recipes by one Dr. Ed. Stafford, of London, given to Governor Winthrop for the benefit of his colony in America. The Manuscript written in 1643 was communicated to the Massachusetts Historical Society in February, 1862, by Dr. Oliver Wendell Holmes. The document

consists of practical directions to cure various disorders, for example:

"9. For paines in ye Brest or Limmes: Weare a Wilde Catts skin on ye place grieved.

10. For a broken bone or a Joynt dislocated to knit them: Take ye barke of Elme, or Witch-hazzle; cutt away the Outward part, and cutt ye Inward redd barke small, and boyle it in Water, till it be thick that it will rope; pound well, and lay of it hott, barke and all upon ye Bone or Joynt, and tye it on: or with ye Mussilage of it, and bole Armeniack make a playster and lay it on."1/

What were the diseases and injuries the physician (Dr. Stafford) expected the Governor would have to deal with? Holmes analyzed them in this manner: "Plague, small-pox, scurvy; all sorts of fevers, poisons; madness, epilepsy, hysteria, lethargy, vertigo; dysentery, jaundice; pains rheumatic or other; affections of the urinary organs; pleurisies; watery humor or dropsies; phlegm, or catarrhal affections--such are the inward complaints for which he prescribed. Fractures, dislocations, wounds, bites of venomous creatures, boils, ulcers, gangrene, scrofula, burning with gun-powder, &c., are the external maladies."

"I think this manuscript possesses a peculiar interest in that it may be looked upon as the standard, if not the only medical text-book in the colony. It shows also that Governor Winthrop was desirous of

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providing to the best of his ability for the physical welfare of those in his charge."1/

The early public health movement began with the enactment in 1648, by the General Court of the Massachusetts Bay of a statute providing for maritime quarantine, because of the prevalence of disease in the West Indies.

"For asmuch as this Cor'te is credibly informed yt ye plague, or like greivos (in) fectionious disease, hath lately exceedingly raged in y'e...West Indies, to ye great depopulat'ons of those, it is therefore ordred, yt all (our own) or other vessels come' from any pts of y'e West Indies to Boston harbor shall stop (and come to an) anchor before they come at y'e Castle,.....that no psone coming in any vessell from the West Indies shall go a shore in any towne, village, or farme,.....or any wayes land or convey any goods brought in any such vessels to any one towne, village, or farme aforesaid....."2/

No further sanitary regulations were adopted until October 11, 1665, when a warrant was issued by the General Court ordering vessels coming from England to be placed in quarantine. This was on account of the "Plague" existing in London at this time, but it was repealed two years later. These two orders, adopted to meet the emergencies, comprise the whole legislation of the seventeenth century relating to quarantine.

In 1701 the General Court of Massachusetts passed an


Act authorizing the selectmen to provide for those sick with
contagious diseases.\footnote{The Acts and Resolves of the Province of the Massachusetts
Bay, Boston, 1869, Vol. I, p. 469.}

A necessary adjunct to such legislation was the
errection of an isolation hospital for quarantine purposes.
So we find in 1716, the General Court appointing a committee
to locate a site for such a building. A final decision was
reached, and a quarantine hospital was on Spectacle Island,
which was used for infectious diseases until 1737, when it
was transferred to Rainsford Island, where it remained until
1849. It was then established at Deer Island, and remained
here until April, 1867, when it was removed to Gallop's
Island.

The laws passed by the Massachusetts colonial govern-
ment bearing upon the practice of medicine have been trans-
cribed from the archives of the State by Toner,\footnote{Joseph M. Toner, Contributions to the Annals of Medical
Progress, Government Printing Office, 1874, pp. 12-37.}
and S. A.\footnote{Samuel Abbott Green, History of Medicine in Massachusetts,
delivered in 1881 before the Massachusetts Medical Society,
A. Williams Company, Boston, 1881, pp. 1-131.}
Green.

In 1649, a law was passed in an attempt to regulate the
practice of medicine in Massachusetts. It afforded, however,
only a slight protection against the deficiencies of the
profession, since it made no provision for educating medical men, and established no test of their qualifications. The tendency of the law was to confine the profession to skilled persons. It is worthy of notice, however, as being the first attempt on the part of the colonial authorities to restrain the quackery of the time. The Act reads as follows:

"Forasmuch as the Law of God allowes no man to impaire the Life, or Limbs of any Person, but in a judicial way;

It is therefore Ordered, That no person or persons whatsoever, employed at any time about the bodye of men, women, or children, for preservation of life, or health; (as chirurgeons, midwives, physitians or others), presume to exercise, or put forth any act contrary to the knowne approved Rules of Art, in each Mystery and occupation, nor exercise any force, violence, or cruelty upon, or towards the body of any, whether young or old, (no not in the most difficult cases) without the advice and consent of such as are skillful in the same Art, (if such may be had) or at least some of the wisest and gravest then present, and consent of the patient or patients if they be mentis compotes, much less contrary to such advice and consent; upon such severe punishment as the nature of the fact may deserve, which Law nevertheless, is not intended to discourage any from all lawfull use of their skill, but rather to incourage and direct them in the right use thereof, and inhibit and restraine the presumptuous arrogancy of such as through presidence of their own skill, or any other sinister respects, dare boldly attempt to exercise any violence upon or towards the bodyes of young or old, one or other, to the prejudice or hazard of the life or limbe of man, woman, or child."

In an attempt to regulate the practice of medicine in Massachusetts, Green quotes a petition, which is in the Massachusetts Archives, assigned to the date 1653, and is of Records of Massachusetts Bay, Boston, 1853, Vol. II, pp. 278-279.
much interest. It is as follows:

"TO THE HONORED COURT.

Whereas there be many Chirurgions that came over in the ships into this Bay, & here practise both physick and Chirurgery to the hazarding of the lives & limbes of some, & the detriment of many, being unskilled in those Arts. May it please this Honored Court to take into Consideration whether such ought to be restrained, & that first they may be exercised by the Skilfull & authorised Phisitians & Chirurgions in this towne, & then being found skilfull, & approved by them may by some Magistrates be licensed to practise the time they are resident here, but if any one shall presume on shore to practise without liberty granted, that some fine may be imposed upon him for every such default according to your discretion."1/

At regular intervals after the yellow fever of 1693, quarantine laws were passed or modified to meet the needs of the public. In 1731 an Act was passed "to prevent persons concealing the small-pox, and requiring a red cloth to be hung out in all infected places."2/

In 1742 was passed "An Act to prevent the spreading of the smallpox, and other infectious diseases and concealing the same."3/

In 1743 an Act was passed "regulating the hospital on Rainsford Island, and further providing in case of infectious sickness."4/

1/Samuel Abbott Green, op. cit., p. 40.
There were many other acts during the seventeenth and eighteenth centuries having to do mainly with the prevention of contagion. Toward the end of the seventeenth century, the appearance of severe epidemics of smallpox, scarlet fever, and yellow fever attracted attention and stimulated attempts to find the cause of these diseases. In 1685, smallpox was very prevalent, and days of prayer and fast were held to avert its ravages.  

Meanwhile, smallpox had become a major health problem. Epidemics were becoming frequent. In desperation the Selectmen of Boston issued an order on March 9, 1729, encouraging inoculation against this pestilence.

This order did not seem to carry much weight with the parents of the school children or the citizens in general, for the warning was not heeded. A heavy outbreak occurred in 1752, and nearly 1800 persons moved out of the town to escape its wrath.  

The Boston Board of Health, created by the Health Act of 1797, exerted much influence in diffusing knowledge and dispelling prejudices in regard to vaccination.

3/Samuel Gardner Drake, The History and Antiquities of Boston, Luther P. Stevens, Boston, 1856, p. 632.  
4/Records of Massachusetts Bay, 1797, Chap. 16, Sect. 11, pp. 633-634.
Boston, Salem, Marblehead, Plymouth, Charlestown, and Lynn were among the first towns to establish boards of health under this authority.

An interesting article on the subject of Inoculation appears in the Boston Gazette and Country Journal of March 8, 1784:

"INOCULATION--The public are hereby informed, that a class will be admitted for inoculation for Small Pox, on Thursday the fifth of April, at the Inoculation Hospital, at Point Shirley, a place at once, perhaps, the most healthy and best calculated for the purpose of any in the Commonwealth. ... Such persons are inclined to receive this disorder, by inoculation, are desired to apply to either of the subscribers before the day mentioned."

As this subject of inoculation is being brought out in the discussion, it is well to remember that "Massachusetts was the first colony to introduce small-pox inoculation, and she was also the first state to adopt kine-pox vaccination; and her towns have always taken the lead in sanitary matters."

The first official attempt to use the schools to overcome disease problems appears in 1827, when the school committee of Boston voted the first compulsory vaccination regulation for school children, which directed the instructor

"... to ascertain by probable evidence that every child who is offered for admission at school, shall


have been secured against contagion of small pox; and no child not so secured shall be received...unless the school committee shall order such a child to be...received."}

Another development of a public nature which raised the standards of medical practice and indirectly operated in favor of a general diffusion of health education was the organization of professional societies. These organizations exerted an important influence on the progress of American medicine and in many places became the active agents in determining the standards of medical education. In 1781 the Massachusetts Medical Society was incorporated with some thirty members. By the close of the century seven state societies had been organized.

"Formal medical education in the United States had its beginning in 1765, a decade before the opening of those tumultuous years that saw the passing of a social order and the birth of a nation.

The pioneers of the seventeenth and eighteenth centuries practised the arts of statesmanship and theology but left physic to Providence and the miscellaneous practitioners. Legislators gave only transitory attention to the regulation and protection of the profession. Organized education took no cognizance of medicine as a branch of learning."}

Medical legislation in the colonies prior to 1760 was a medley of acts passed in several colonies, designed to

1/Boston School Committee Minutes, 1815-1836, p. 219.

2/William Frederick Norwood, Medical Education in the United States Before the Civil War, University of Pennsylvania Press, 1944, p. 429.
correct certain evils. The intent of these acts was usually to throw some protection around the public. Some even reflected a spirit of public suspicion of the profession. Fee rates, quarantine, inoculation, criminal neglect, and responsibility of practitioners were usually the subjects of these statutes.

Yet, at the turn of the century, and during the eighteenth century democratic ideas gave a strong impetus to health education. Enlightenment, the catchword of this century, also included enlightenment in matters of health. The fight against superstition in general was also extended against medical superstitions. Many popular books and even magazines discussed medical subjects for the more educated public. The common people, particularly in rural districts, could not be reached directly, and yet their health above all needed improvement. To achieve this objective it was necessary to provide for the elementary education of all. In other words, it was necessary to spread education and to enlist the teacher as a health educator.

The eminent Moravian bishop, Johann Amos Comenius, (1592-1670) was perhaps the outstanding writer upon educational theory in the seventeenth century to pave the way for the wider application of sense realism in the eighteenth and nineteenth centuries. He viewed the school as the handwork of society, shaping children into human beings and playing
a part in the improvement of society. Comenius made it evident that education should be a natural process in harmony with man's very constitution and destiny. He held that bodily vigor and physical education were essential, and made sense training an important part of the child's life. Moreover, he tried to apply the methods of science, as he understood them, to educational theory, curriculum, and method.

Comenius was far in advance of his day and had little direct effect upon the schools of his own time, but the modern tone of much that he proposed was unconsciously taken up by others to become the basis of modern education.

Bacon (1561-1626) and Locke (1632-1704) had raised not only the question of the nature of man, but they had indicated the need for a science of human development. They and other writers of the century brought to the foreground the question of how the forces of nature should be utilized for the realization of man's greatest happiness and greatest development. Institutions were being critically evaluated in their relation to human progress so that at the beginning of

1/Will S. Monroe, Editor, Comenius' School of Infancy, D. C. Heath and Company, Boston, 1896, pp. 23-34.


the eighteenth century there was already present a body of doctrines and a conception of method that made it possible to conceive of a directed progress of humanity.

Rousseau (1712-1778) became the great apostle of the essential goodness of man and of the principles implied in this theory—principles which came to dominate the revolutionary and democratic movements of the latter part of the eighteenth century.

"The doctrines of the eighteenth century were: that man could progress; that the lines of human progress could be determined; and that man's nature was favorable to progress. The function of education was to aid man in the realization of the greatest possible advancement, and the state existed for the furthering of human progress in societal and individual welfare."  

In bringing to a close our brief and momentary glance into conditions, political, social and economical, affecting the development of health education in Colonial times, the writer presents to the reader a lecture delivered by George B. Emerson, a Member of the Massachusetts Historical Society, in a course before the Lowell Institute in Boston, in 1869. Emerson portrays vividly the great outdoor life pursued by children of that period, bringing out forcibly the important place which natural and physical science occupied in this primitive preparation of a boy for manhood and the duties

required of him as a member of a colony soon to emerge as a free nation.

"In the early years of Massachusetts' existence there were no cities. The greater part of the people lived in the country, nearly all on farms. In Boston there was little room for farms, and not much for gardens; but many of the inhabitants had gardens and farms on the islands of the Bay. . . . The boys spent most of their time in the fields and forests and along the rivers and the sea, hunting bears and deer, trapping foxes, shooting wild turkeys, wild geese, and wild ducks; or fishing, riding, driving, swimming, rowing, and sailing; or at work with those who were laying out roads through the woods, digging wells and ditches, making walls, and fences against the wolves, building houses, barns, fortifications, churches, ships, mills, boats, and ships, laying out and cultivating gardens, planting orchards, and engaged in all the labors of husbandry. They thus became hardened to the climate, and gained good constitutions and health, and moreover became acquainted with natural objects,—rocks and soils; animals, wild and tame, savage and civilized; . . . the trees and shrubs of the woods, and the flowers and herbs of the gardens and fields; and saw the powers of water and of wind, and felt the effects of sunshine and cold and all the forces of the atmosphere. The elder boys belonged to the train-bands, which, under able officers, were drilled—not over twice or thrice a week, the law provides—to the use of the musket, the sword and the spear. Such were their summer occupations.

In winter, they helped to clear the woods and cut down the forest-trees, sledded the logs to the wood-pile and the timber to the mills, and assisted at first in hewing it, afterward, in sawing it into beams, posts, joists, planks, boards, clapboards, and shingles; or squaring it and building it directly into houses. The winter evenings, on those solitary farms, were probably spent in reading,—an easy and pleasant thing, before the existence of theatres, balls, concerts, and dram-shops. And they doubtless had their huskings and other merry-makings.

Has any system been devised to take the place of this, and give the young man, in a higher degree, full possession of all his powers and faculties of body and mind, or to give him, in the same degree the masculine qualities of hardy self-reliance with cautiousness,
manly courage with coolness, resolution with patience, and power of endurance with habits of strenuous and cheerful labor? What better discipline have we devised or are we devising for the drawing out and training these manly qualities?

In Confession of a School Master, it is interesting to note how some educators, far ahead of the times, have given impressive accounts of the crying need for basic health practices.

"...I had not learned, so fully as I have since done, that sports are as indispensable to the health of both the bodies and minds of children as their food, their drink, or their sleep. I regarded them as a mere waste of time, which it were far better to avoid. And with this in view, the more I could cheat them out of their sportive hours, the better.

However great this error, and however common, I do not wonder at it, when I consider how ignorant people are of their own structure and laws of their physical being; and above all, when I consider how children are brought up. I was trained, as I suppose most others are, in New England, to the belief that play is folly rather than wisdom in the child;....

My eyes, however, were gradually opened. I saw—how could I help it?—that my pupils studied best when they had the most time for exercise. I found that besides a recess of ten minutes in the middle of the forenoon, and another in the afternoon, they needed at least an hour at noon; and it was accordingly allowed them.

Our common exercise was ball playing. ....

Another favorite amusement was coasting. ....

Another amusement was skating and playing on the ice. The only objection to this was that the 'pond,' to

which we were accustomed to resort, was rather too far from the school house. To go there during the short recess, at the middle of the forenoon and afternoon, was impossible. 1/

How fortunate were the children of this period to experience in their formative years the great benefits of outdoor living and to feel the wonders of nature all about them. With the advent of the "little red school-house" health problems multiplied immeasurably. It is the purpose of this narrative to endeavor to interpret school health conditions and development in Massachusetts so that the great strides achieved in the course of its history may be better understood.

2. The National Period (1789-1830)

The old regime, the colonial period, was passing and in the transition to the new regime, the national period, there was need for an awakening to the health problems of the school children of this new nation. The pioneer fathers were too much absorbed in subduing the wilderness to give much time or thought to medical matters except in case of stark necessity. A nation was in the building and medicine, or the "physic" as the healing art was then designated, was born and molded by the fortunes of a hardy and resolute people.

The period of two centuries, between the landing of the Pilgrims at Plymouth in 1620, and the establishment of the first American high school in Boston in 1821, was a period of gradual economic and social evolution. The history of the times shows that the apparent decline of interest in the public schools after the Revolutionary War was due to the civil and political excitements of that period which occupied the minds of the people to the partial exclusion of their original attention to the interests of popular education.

"The Revolutionary War and the formation of the new nation did not bring in a great educational revival. Rather was the reverse true. The emphasis on individualism was too strong, the interest in new political and economic developments appealed too
powerfully to the efforts of a newly liberated people.  

Massachusetts adopted her state Constitution in 1780 and the Federal Constitution in 1788. She was then a sovereign state as well as a member of the Federal Union. The separation from England was based not so much upon economic issues that occasioned the protest, as upon an outlook which was the result of pioneer experience and the eighteenth century liberal view of man. This outlook involved a recognition of the natural rights of man, based upon a society composed of mutable and perfectible institutions endowed with utilitarian and creative functions, and the necessity for a form of education uniquely fitted to further democracy. As a result the fundamental principles of the American Revolution were an outgrowth of the eighteenth century movement toward freedom of thought and action.

In retrospect, the various efforts to create a national system of education immediately following the Revolution were largely attempts to make the principles of the eighteenth century liberal movement the determining force in the development of American character and institutions.

"...we mean by 'nationalization' that general growth of public sentiment accepting education as one of the essential functions of government, and the education of the masses of the people as an essential condition of the preservation of the state."1/

When the Constitution was drawn up and ratified in 1789, no mention of education was made in it. Apparently most of the members of the Constitutional Convention felt that other matters were of more pressing concern, such as the emphasis on individualism and the interest in new political and economic developments. Even the Bill of Rights did not mention education directly. It is to the Tenth Amendment that educational authority turned to interpret the states rights to establish and maintain schools.

"The Constitution of the United States is silent on the subject of education. ...By implication of the tenth amendment (1790) education took its place alongside of all other powers not specifically granted to the federal government as being the exclusive prerogative and interest of the several states."2/

As one regards the condition of education in Massachusetts during the first forty years of the new national life, one is impressed with the fact that the total situation revealed extremely significant elements of change, progress, and retrogression.

In matters of public health and school health, this

1/Paul Monroe, op. cit., p. 194.

period is marked with a great deal of the "laissez faire" attitude. One of the chief disintegrating forces in this educational decline was the enlargement of the sphere of settlement and the consequent development of the school district system. It was deemed expedient in 1789 to divide the territory of the towns into separate districts, on account of the general dispersion of the population, as the best land near the center was more and more taken up.

A law was therefore passed granting authority to the towns to determine and define the limits of school districts. It was the original intent of this law to secure the establishment of a sufficient number of schools for all the inhabitants. However, it proved to be the source of many and serious evils. It prevented a town organization of the public schools by establishing a school management not responsible to the towns. It permitted men to be elected to the office of prudential committee, without regard to any special qualification for the performance of its duties. It gave the small districts poor school houses, poorly equipped, incompetent teachers, and, consequently a low order of instruction.

The high standard of education under public control, which had been set by the colonists, was gradually lowered by this new school law in which the old requirement of a grammar school in each town of one hundred families was changed to a requirement of one in each town of two hundred families.
Thus, as Martin describes it, the year 1827 "marks the culmination of a process which has been going on for more than a century,--the high-water mark of modern democracy, and the low-water mark of the Massachusetts school system." 1/

The summaries of school conditions during this period indicate that colleges, academies, and private schools flourished, but that little advance was made beyond the Colonial achievement in working out a strong public school system.

"The decline of popular education among us, or rather the comparatively retrograde motion of the principal means of it, has been more perceptible during the last twenty or thirty years than it ever was at any former period. And in the mean time there has sprung up another class of schools, more respectable, indeed, in their character, and better answering the demands of a portion of the public, but not free. The academies are public, but not free schools." 2/

A momentary glance into school houses during this period of retrogression will show the complete lack of harmony and balance between the physical and the intellectual cultivation of the young.

"The schoolhouses in general were deplorable and are best described by adjectives used in the several reports of the school committees: 'cold, dark, unplastered, shutterless, blindless, curtainless, dilapidated, ill-constructed, ill-ventilated, ill-situated, ill-furnished, ill-proportioned, inconvenient,


2/James Gordon Carter, The Schools of Massachusetts in 1824, Old South Leaflets, Boston, pp. 201-224.
uncomfortable, shabby, unhealthy, leaky, dingy, shattered, prison-like, smoky.

In some school houses the children are compelled to sit hour after hour on a narrow plank, with nothing to support their bodies, unless they lean one upon another, which is too often done for the good order and quiet of the school.

Frank A. Hill, sixth secretary of the Massachusetts State Board of Education, in the sixty-fourth Annual Report, pp. 247-249, writes as follows: "A complete survey of our public school system seventy-five years ago cannot here be attempted. A general idea of the situation may be formed, however, when we contemplate such school returns as we have for those times, and consider further that there was then no compulsory attendance, that the length of schooling showed astonishing diversities, sometimes from two months to twelve, even in the same town; that this length was frequently eked out by private subscription; that large numbers of teachers were incompetent; that schools were constantly changing their teachers; .... that school buildings were generally poor; ....",

To understand the real progress which has been made in the organization, administration, and instruction of institutions of learning in this country and the state, we must as far as we can look into the schools themselves, as they were at the beginning of the nineteenth century, and

realize the circumstances under which some of the noblest characters of our history have been developed. As a contribution to our knowledge of the early history of health education in Massachusetts, the writer presents the testimony of two eminent men, one a pupil, the other a teacher, in these schools, who assisted in various ways in achieving their improvement.

"I was born in Belchertown, Massachusetts, March 5th, 1779, and was probably sent to school when six or seven years old. My teacher was a soldier of the Revolution, living in the district. The first school-house, if such it could be called, was a room twelve or fourteen feet square, in an old dilapidated dwelling house. The seats were slabs from a saw-mill, and with legs making them so high that small scholars needed a short rope to anchor their feet to the floor. But there we must sit, however painful the position.

With these surroundings and discomforts, I was taught the alphabet in the New England Primer;..."1/

"The first winter that I kept school myself, was in a room next to the kitchen in a small private house. Some of the school-houses were better than others; but none of them in that or the adjoining towns were convenient or even comfortable. They were rather juvenile penitentiaries, than attractive accommodations for study. They were too small, and low from the ceiling to the floor, and the calculation of the builders seemed to have been, to decide into how small a space the children could be crowded, from the fire-place till the room was well packed. Not unfrequently sixty or seventy scholars were daily shut up six hours, where there was hardly room for thirty. The school-houses were square, with a very narrow entry, and a large fire-place on the side near the door. There were no stoves then. They had writing-desks, or rather, long boards

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for writing, on two or three sides, next to the wall. The benches were all loose; some of them boards, with slabs from the saw-mill, standing on four legs, two at each end. Some were a little lower than the rest, but many of the smaller children had to sit all day with their legs dangling between the bench and the floor. Poor little things! nodding and trying to keep their balance on the slabs, without any backs to lean against, how I pity them to this day. In the coldest weather, it was hard to tell which was the most difficult, to keep them from roasting or freezing. For those nearest to the fire it was sweltering hot, while the ink was freezing in the pens on the back side of the room.

All the school-houses that I remember stood close by the travelled road, without any play-grounds or enclosures whatever.

These, dear sir, are some of my old remembrances, which you may make such use of as you please."

So we find, besides the meagerness of opportunity for learning, very unfavorable physical conditions in crowded, unhealthy, and uncomfortable rooms. These schoolhouses were a menace to the health of the children and a disgrace to the cities and towns which owned them.

Where were these common schools generally located? Martin adequately relates that "In the choice of a site.... upon one point there was unanimity: the land must be valueless, or as nearly so as possible,...a barren ledge by the roadside, a gravelly knoll, the steeply sloping side of a bosky ravine, the apex of the angle of intersecting roads."
3. Summary

During the period under discussion, we find that life in general was simple and overwhelmingly rural. Educational progress was very slow and taking place piece-meal through the improvement of conditions in small areas. The most material deficiency, perhaps, existing in the prevailing system of education was the want of instruction regarding man's physical structure, capacities and basic health needs. Nearly all prominent educators and statesmen of the period were aware of the fact that the body as well as the mind needed attention generally in the schools. However, problems which seemed of greater importance then absorbed the group to the exclusion of health as a primary objective of education.

Massachusetts entered the Union with a tradition of public education and with what might be called a system of schools.

Many legislative enactments are recorded pertaining to public health. However, we find no specific provision in the laws for developing healthful school surroundings, for promoting school health laws, or for encouraging the formal teaching of health.

We also begin to observe a general trend toward the formation of a cooperative society whose general welfare comes before individual welfare. This is apparent in the
passing of general health laws. Since many diseases were communicable, patients suffering from them became a direct menace to their neighbors. In such cases, the State felt justified in interfering with the individual in order to protect itself.

Vaccination laws testify to such interference with the individual as a member of the group. We must admit that these laws definitely encroached upon personal liberty in forcing the consent of the individual to being made sick artificially in order to protect him and his fellows from more serious illness. So vaccination laws were enacted coinciding with a period of political liberalism which explains the enormous difficulties encountered in passing such legislation. Vaccination could not be openly required, but was sought by indirect methods. Vaccination, although not compulsory, must be submitted to because elementary education is and the schools do not admit children who are not vaccinated. The changing attitudes of society during the colonial and national periods were excellent tests of its health consciousness and sense of responsibility. They revealed how far the group had moved in the development from a competitive to a cooperative society. The more specialized the colonists became, the more they were obliged to give up certain individual liberties and assume responsibilities toward the social group of which they were a part. They learned
to accept obligations in matters of health and disease for their own protection and that of the community.

One serious obstacle which stood in the way of progress was the lack of interest in the conditions of the common schools by the most enlightened members of the community whose children were receiving their education in private schools.

We find also that school development was patterned according to the European plan. We were looking to the mother country for guidance in this field of endeavor. We regarded ourselves in a crude or embryonic stage of development and felt that England, with other countries such as France, Germany and Sweden, were leaders. Consequently many of their ideas were proposed by the few who had observed their methods first hand through travel in these countries.

There is little doubt that the educational system of this period labored under serious defects, one of which was the entire neglect of the health and physical well-being of the scholars. Our surprise on this subject would be less, if the striking advantages of training the body had not been demonstrated centuries ago and recorded for posterity. Our surprise would be less, too, if success in education had ever been attained without this training. On the contrary, we find the schools of the period failing in their efforts because of this obvious deficiency, a
balance between mental and physical training. When we consider how many minds have been engaged in the theory and practice of education--minds, too, which were deeply interested in the results of their labors, it surely is unbelievable that for ages they should have overlooked the very first and most essential condition of success--health. The fault lies in education over-looking the demands for the well-being of the individual.

In the final analysis, the history of school health education for the period 1789-1830, seems to be largely a record of complete inactivity insofar as the health and the welfare of the child were concerned. The demands for an awakening in educational ideals and education leadership cried aloud for radical revisions. This need for an immediate and thorough improvement in the system of free public schools embodies the reform movements following this period, stimulated by the work of several of the greatest educational reformers whose influence and progressive ideas were felt up to the close of the nineteenth century. The corner-stone of school health education was laid on such a groundwork; the structure was built on such a foundation.

The foregoing pages have given us a view of the conditions at and preceding the opening of a new era in school health education in Massachusetts. We have before us the traditional and inherited beliefs and tendencies in regard to education. The attention must now be directed to
the changes, social and industrial which occurred between the years 1830-1865, a period marked with many conflicts and a great deal of ignorance in matters pertaining to school health. This era is also one of rapid transformation from household industry to the factory system; it is the era of various humanitarian movements from temperance reforms to the abolition of slavery; and it is also the era of a great educational revival for the state of Massachusetts under the leadership of Horace Mann, the first Secretary of the State Board of Education.
PART II

THE GROUNDWORK IN HEALTH EDUCATION IN THE SCHOOLS OF MASSACHUSETTS 1830-1865

1. Conflict and Ignorance
2. Humanitarian Aspect of School Health Development
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PART II
THE GROUNDWORK IN HEALTH EDUCATION IN THE SCHOOLS OF MASSACHUSETTS 1830-1865

1. Conflict and Ignorance

As we study our State's history and search for the causes of her vigorous growth and discriminating interests in matters of health, we cannot fail to recognize the circumstances which made a public school spirit desirable and ultimately inevitable.

"Educational history of Massachusetts from 1820 to 1890 rescued Massachusetts from the indifference that prevailed from 1789 to 1820, discovered a public-school sentiment from 1820 to 1837, aroused public action from 1837 to 1847, slumbered from 1847 till after the Civil War, and achieved marvelous results in administration and professional zeal in the common schools....from 1870 to 1890."

Massachusetts entered the Union with what might be called a system of public schools. It did not necessarily follow, however, that a progressive course of action would be carried on after the disappearance of the founders. On the contrary, as is evident during the period 1789-1830, we find the

danger of a retrograde tendency in succeeding generations not sustained by equally strong convictions. That of perpetuating and forging ahead in the face of a decaying popular sympathy was the great labor. In order to counteract this inertia, new motives had to be supplied and a continuity of interest had to be preserved.

At the beginning of this period, national, state, philanthropic, social, political and economic forces began to find expression and were potent in the development of school health education.

"The contribution of the eighteenth century to the development of health education can hardly be overestimated. For even today the work of health education is greatly one of enlightenment. But to the nineteenth and twentieth centuries fell the task of making health education effective and putting it on a broader basis. If in earlier times physician, priest, and teacher had acted mainly as individuals, the nineteenth century now witnessed an organization of forces. Associations both lay and professional were formed which made health education their aim."

Rapid growth of urban population, the development of manufacture, and a multiplicity of important inventions during the nineteenth century conspired to give new powers and new directions to popular learning in America.

"Perhaps the most significant long-term trend in American economic life during the nineteenth century was the shift from an agrarian society to an industrial society. At the opening of the century most people

made their living from the land; by the end of the century the impact of industrialism and manufacturing was making itself felt in all parts of the country.

Accompanying industrial changes were the growth of city life, the more rapid and easier means of communication and transportation. Cutting across these trends was the great increase in population added to by the influx of immigrants from European and other foreign countries. All these developments had profound effects upon American education.¹

Contributory to this immense change, of course, was the immigration from Europe. Another vastly important aspect of industrialization was the growth of city life. As the factory system supplanted household and domestic methods of production, workers crowded into the cities, amid desperate conditions of filth, squalor, and overcrowding. The slum areas became alarmingly unhealthy and unsanitary. Chickering shows that 213 towns chiefly agricultural, situated in Massachusetts, increased only 8.5 per cent. from 1820 to 1840, while 88 manufacturing towns increased 79.62 per cent.²

"The population of the United States in 1812 was about 8,000,000.

Since 1820 a new element had been appearing among the people. This was the foreign immigrant. There were now one hundred and forty-three thousand foreign-born persons, who within the last ten years, had come to live in America. They were found chiefly in the towns and the country along the Atlantic Coast."³


With the revival of industries beginning about 1822 came a new set of industrial and social problems. These problems were inextricably connected with the educational advances, particularly in health, of the period. The development of the factory system and the growth of cities, accompanied by the radical changes in the manner of living and working, gave the schools new problems—problems which formerly devolved upon the home and the workshop. Idle and uneducated children appeared upon the streets of the cities and towns; child and woman labor in factories pressed for solution.

"The truancy problem in Massachusetts had become a very perplexing one as early as 1845. It is stated in the school report of Boston for that year that the absences from the schools of the city, each day, were about one fifth of the whole number of children who should have been in attendance. A part of these absences may be explained on the ground that children employed in factories had complied with the provisions of the statute of 1842. ....However, there was another class of children who were not in school;.... These were the children who were deprived of instruction either by the poverty or neglect of their parents, or by their own perversity."

2. Humanitarian Aspect of School Health Development

The consequent change from outdoor and active, to indoor and comparatively sedentary life, with greater opportunities for association with others increased the evil of intemperance. Pauperism and crime became crying evils. Societies for the prevention of crime, for the aid of the poor, and for other benevolent purposes sprang into existence.

"In 1826 there was formed in Boston the American Society for the Promotion of Temperance.

One of the great reformers of this period was Dr. Samuel G. Howe of Boston, and of his many reforming interests none was more productive of good than his work for the blind. In 1832 he succeeded in establishing a school in Boston...and the school developed into the famous Perkins Institute for the Blind."

In the first Annual Report of the Secretary of the State Board of Education (1838), we find an extract of a letter from Dr. Samuel G. Howe, recommending proper school room arrangement for utmost sunlight benefits.

"School-rooms should be arranged in such a manner that the light of the sun can be admitted in the right direction—not dazzling the eyes, but striking upon the books..."

"...I believe an attention to the physiology and laws of vision, by parents and instructors, would be of great benefit to children...""1"


2/The First Annual Report of the Secretary of the Board of Education, Boston, 1838, p. 64.
Men in all walks of life and of all degrees of education turned with tremendous enthusiasm to the development of a better civilization. The humanitarian impulse and the reforming spirit of the period effected a change almost as remarkable, if not as spectacular as the Industrial Revolution.

"But about the year 1800 an immense change had begun to come over the land. The invention of the steam engine had started a mighty transformation in the life of the people. Domestic industry was supplanted by the factory system. The factories which sprang up needed workers, and people flocked from the country into the towns. At first the towns were little better than hastily constructed camps without adequate housing, adequate sanitation, adequate police and health regulation. Ignorance, disease, drunkenness, poverty and crime flourished in them. Then came the hard times of 1819-1821, which made conditions so desperate that great humanitarian movements took form to alleviate them. Among these were the temperance movement; the labor movement; the philanthropic movement to care for the poor, to provide hospitals for the insane, to combat the increase of crime and furnish training to the deaf, dumb, and blind; and, most important of all, a mighty movement in behalf of popular education, preaching a veritable crusade against the evils of the time by the creation of tax-supported public schools. This is the period of our educational revival which after-years may look back upon as no less significant in human history than the Renaissance or the Reformation."1/

These various humanitarian movements in the nineteenth century reflected the ferment of reform ideas counteracting the sordidness and stifling quality of industrial conditions.

One of the earliest and most effective agencies engaged in diffusing health instruction to the masses of the people as an essential condition of the preservation of the state

was "The American Physiological Society." 1/ This Society was organized in Boston in 1837 under the leadership of two remarkable individuals, William Andrus Alcott and Sylvester Graham. The membership of the organization was composed primarily of laymen and laywomen drawn from all walks of life. Their interest in physiology was of an intensely practical nature and attention was directed primarily to that part of Human Physiology which teaches the influence of air, cleanliness, exercise, sleep, food, drink, medicine, etc., on human health and longevity. They were pledged not only to the study, but also to the teaching to others of the laws of life and the means of promoting health and longevity.

At the first Physiological Convention of the Society held in Boston in 1838, it was proposed to discuss such topics as: What can be done to spread a knowledge of physiology and the laws of health among the community? Should physiology be introduced into our schools and colleges? Of the resolutions passed by the assembly we note the following:

"Resolved, That in view of the intellectual and moral benefits to be derived from the diffusion of popular anatomy, physiology, and hygiene, we look forward

with much satisfaction to the day when this class of studies will be introduced into all our colleges and schools."

Alcott and Graham were two militant and forceful personalities of the period who felt the need for a broader concept of health education, in the form of physiology, as a rising force in the development of the individual in a society essentially democratic in its organization.

William Andrus Alcott believed that popular education was the key to a perfect social organization and that through proper education, abuses of all kinds would inevitably disappear. He was not slow in gaining recognition for innovations not often appreciated by local school committees, such as more comfortable school benches, decorations in the school room, improved ventilation and heating, changes in curriculum and methods of teaching, and the introduction of dancing as a school exercise.

"But suppose it were true that you have no time to read, either on the manufacture of health, or anything else; one thing remains, which, as Christian parents, or as friends of our common country, you are under obligation to do. You are to see that your children have this most necessary knowledge.

You are bound to see that anatomy, physiology and hygiene are taught—not in that profoundly scientific way which is desirable and even indispensable in the professional schools, but in a plain and popular manner—in all the schools of the land.

...It is not the study of disease which I recommend, but the study of the laws of health.

1/Hebbel E. Hoff, and John F. Fulton, op. cit., p. 705.
As things are in our schools, ventilation is seldom so much neglected that the pupils get sick at once; but then, on the other hand, it is not so well attended to but that the seeds of disease are every day and hour sown, to germinate and grow in the future, when the occasion is forgotten. On the whole the march of improvement in this matter is onward. ... Still it will be a long time before, as a general rule, children while at school, will improve as much in health as they do in knowledge."

In response to such demands by individuals and philanthropic organizations that a beginning in the diffusion of knowledge in health be made in the schools, the first permissive legislation for the teaching of physiology and hygiene in the common schools of the state appeared in 1850. The following are the provisions of the Act passed by the Legislature on April 2, 1850:

"Sect. 1. Physiology and hygiene shall hereafter be taught in all the public schools of this Commonwealth, in all cases in which the school committee shall deem it expedient.

Sect. 2. All school teachers shall hereafter be examined in their knowledge of the elementary principles of physiology and hygiene, and their ability to give instructions in the same.

Sect. 3. This act shall take effect on and after the first day of October, one thousand eight hundred fifty-one.

Approved by the Governor, April 24, 1850."

1/William Andrus Alcott, Lectures on Life and Health, Philip Sampson and Company, Boston, 1853, pp. 44, 46, 156.

Prior to the passage of this Act many heated discussions on the subject arose in the House of Representatives as attested by the following summary of a debate which appeared in the Daily Evening Traveller of April 17, 1850, in which pros and cons of "Physiology in Schools" were presented by members of the House before the bill passed to a third reading:

"Debate in the House of Representatives
Monday, April 15
PHYSIOLOGY IN SCHOOLS

Mr. Wightman...protested against it because it was above the comprehension of the majority of those who attend these schools. He would ask the House, as infinitely more important than this, to require all school houses to be ventilated.

Mr. Elliot of Boston was surprised at the course pursued by his colleague. The subjects of physiology and hygiene were eminently practical.

Mr. Wilson of Natick said the gentleman from Boston who opposed this important bill was always talking about practical legislation...on manufactures...and could not see any further than what related to that subject.

Mr. Schauler of Boston...did not think the subject of physiology was suitable to be taught to boys and girls.

Mr. Barry of Hanover doubted the expediency of introducing these studies into our common schools. He thought there were already studies enough.

Mr. Kimball of Boston moved to insert after the word Physiology and Hygiene, biology, psychology, and anthropology."

In the Report of the Sanitary Commission of Massachusetts, 1850, we note the Commissioners approving passage of such legislation, "as soon as persons can be found capable of teaching it." They went a step further in recommending that "measures be taken to ascertain the amount of sickness suffered, among the scholars who attend the public schools 1/...in the Commonwealth." 1/

3. Educational Revival and School Health

Among the gifted and laborious educators of the century who took personal interest in promoting health as an essential factor in education were James G. Carter (1795-1840), Horace Mann (1796-1859), and Henry Barnard (1811-1900). They were the leaders in the great educational revival of the thirties and forties. Their work was not to lay educational foundations; that had already been done. It was reconstruction rather than construction. These men were well informed as to the existing educational conditions and as to the necessary remedial measures to be employed in the realization of adequate educational standards.

Although Horace Mann was by all odds the dominating personality of this great educational awakening, James G. Carter deserves more credit than any one else for arousing Massachusetts to a renewed interest in public educational ideas and in the betterment of school conditions. In his Essays on Popular Education he deplored the current neglect of public schools, so contrary to the New England tradition, and urged legislative measures for improvement.

"If the policy of the legislature in regard to free schools for the last twenty years be not changed, the institution which has been the glory of New England will, in twenty years more, be extinct."1/

"Education...should embrace the development of the powers of our bodies. This is as much a branch of education, as the intellectual and moral development of our heads and hearts. In fact, all that a man is when grown to maturity, more than he is at his birth, is the result of education in its widest sense.

...It is submitted to an intelligent and reflecting community, whether there be any thing inconsistent in the development of the powers of the body, in connection with the mental and moral discipline, which have hitherto made up the whole definition of education; and whether some improvement may not be made in our systems of education, which shall make us physically stronger as well as intellectually wiser."  

Under Carter's leadership in the House of Representatives, Massachusetts, in 1826, vested in the town school committees the powers of general supervision in an attempt to improve the district school system which had become sadly ineffective.

"Sec. 5. Be it further enacted, That each town in this Commonwealth shall, at the annual meeting thereof, for the choice of town officers, choose by written or printed ballots a School Committee, consisting of three, five, or seven persons, who shall have the general charge and superintendence of all the public schools in said town, which are supported at the expense there-of."  

For many years Mr. Carter continued unremittingly to advocate many timely measures for the improvement of schools.

In keeping with the many revolutionary ideas and practices permeating through our system of education at this crucial time of our history of health education was the


2/Original Papers of the Acts of 1826. An Act to Provide for the Instruction of Youth, Chapter CXLIII.
passage by the State Legislature in 1837, of an Act es-
tablishing a State Board of Education.

"Sec. 1. His Excellency the Governor with the
advice and consent of the Council, is hereby authorized
to appoint eight persons, who together with the
governor and lieutenant governor ex officiis, shall
constitute and be denominated the Board of Education."1/

With the creation of the State Board of Education, much
to the surprise and disappointment of many educators, Horace
Mann, a promising young statesman, gave up the career of law
and politics to accept the office of secretary. For twelve
years (1837-1849) Mr. Mann labored indefatigably to infuse a
spirit of enthusiasm concerning education in the public mind.
He lectured intensively. He issued Reports and published his
views in the "Common School Journal."

"Mr. Mann now began a most memorable work of
educating public opinion, and soon became the acknowledged
leader in school organization in the United States.

His twelve carefully written Reports on the con-
dition of education in Massachusetts and elsewhere,...
occupy a commanding place in the history of American
education...."2/

He kept before the educational world the fact that
education for health was necessary for complete education.
This practical reformer likewise gave much attention to the
material side of education. As a supplement to his First

1/Original Papers of the Acts and Resolves of 1837. An Act
Relating to Common Schools, Chapter CCXL.

2/Ellwood P. Cubberley, A Brief History of Education,
Horace Mann discussed with great fullness and ability such pertinent health topics as ventilation and warming of school-houses; size; desks; seats; etc., location of school-houses; light; windows; yards or playgrounds. In his Fourth Report also, he considered many of the physical evils, especially those arising from pupils of all ages being in the same room.

"The construction of school-houses connects itself closely with the love of study, with proficiency, health, anatomical formation and length of life. These are great interests and therefore suggest great duties.

Instructors should see, also, that the school-room be in all its parts, kept in a clean and comfortable condition."1/

"During recess the school-room should be thrown open in warm weather, and the windows be dropped a little way in cold weather, so as thoroughly to ventilate the apartments. We have hardly learned yet that pure air is equally as important to health and life as good nourishment and pure water.

....Without health we can have little enjoyment."2/

Horace Mann's Report on School-Houses was widely circulated in pamphlet form, and in the various educational periodicals of the country thereby providing a powerful impulse to improvement in this department, not only in Massachusetts, but in other states also.

As a result, the first recommendation of the Board of

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1/ Horace Mann, Report of the Secretary of the Board of Education—On the Subject of School Houses. Supplementary to the First Annual Report, Boston, 1838, pp. 7, 40, 43.

Education to the Legislature was for the enactment of measures more "conducive to the health and comfort...of children."

"As the comfort and progress of children at school depend, to a very considerable degree, on the proper and commodious construction of school-houses, the board ask leave to invite the particular attention of the Legislature to their secretary's remark on the subject."  

Horace Mann's Sixth Annual Report containing one hundred and one pages is a dissertation on the study of physiology in the public schools of the State. His thesis is that physiology should have priority among the studies that lie above the elementary level. He is not content simply to maintain this thesis, but writes what is little less than a practical treatise upon the applications of physiology.

"The study of Human Physiology, however--by which I mean both the Laws of Life, and Hygiene, or the rules and observances by which health can be preserved and promoted,—has claims so superior to every other, and, at the same time, so little regarded or understood by the community, that I shall ask the indulgence of the Board, while I attempt to vindicate its title to the first rank in our schools, after the elementary branches.

The Laws of Health and Life are comparatively few and simple. Every person is capable of understanding them. Every child in the State, before arriving at the age of eighteen years, might acquire a competent knowledge of them, and of the reasons on which they are founded."

1/Board of Education Reports--First Report, Boston, 1838, pp. 1-7.  
2/Horace Mann, op. cit., Sixth Annual Report, Boston, 1843, pp. 57-61.
Somewhat less dynamic, but equally as effective in raising the standards of health in the schools of the nation, was the work of Henry Barnard (1811-1900) whose college preparatory work was done at the Monson, Massachusetts Academy.

"The boy... was born in Hartford, Connecticut, January 24, 1811, the fourth child of Chauncey and Elizabeth Andrus Barnard. ... his experience in the dame and district schools of Hartford was an unhappy one. From this he escaped when sent away to a private academy in Monson, Massachusetts. Here he received adequate preparation to enter the famous old Hopkins Grammar School in Hartford." 1/

As an educational personality of both national and international magnitude, Barnard was indisputably the outstanding figure in American education at the time of the creation of the federal department of education and his appointment as first United States Commissioner of Education (1867-1870) was a foregone conclusion.

"The act establishing the Bureau of Education was approved March 2d, 1867; and March 14th, Hon. Henry Barnard was appointed the First United States Commissioner of Education." 2/

For many years Barnard preached the gospel of health education and the need for physical exercises in the nation's schools through the medium of the "American Journal of Education."


"The crowning work of Dr. Barnard's long and active life is the monumental cyclopaedia of pedagogical literature, the 'American Journal and Library of Education,' thirty-one large octavo volumes of over eight hundred pages each."1/

His Essay on School Architecture was influential in bringing about a thorough reform in the construction and care of school-houses. During this period under discussion, school-houses throughout the land were not only disgraceful to behold, but also flagrantly deficient in all serious aspects of healthful and hygienic conditions.

"Principal features of school-houses as they are.

They are, almost universally, badly located, exposed to the noise, dust and danger of the highway, unattractive, if not positively repulsive in their external and internal appearance, and built at the least possible expense of material and labor.

They are too small.

They are badly lighted.

They are not properly ventilated.

They are not furnished with seats and desks, properly made and adjusted to each other.

They are deficient in all of those in- and outdoor arrangements which help to promote habits of order, and neatness...."2/

So timely and enlightening was this publication that the Massachusetts Legislature passed the following resolution


concerning Barnard's School Architecture:

"Resolved, That the secretary of the Commonwealth be directed to furnish, to the clerk of each town in the State, one copy of a work entitled, 'School Architecture for the Improvement of School-houses,' by Henry Barnard, Commissioner of Public Schools in the State of Rhode Island.

Approved, April 20, 1849."

Lest the writer should be thought to exaggerate the deficiencies of school-houses during this period of educational revitalization, the following extracts from official school documents are inserted respecting the condition of school-houses in the many cities and towns of the Commonwealth. By an Act passed by the Legislature of 1826, school committees were then required to make annual school returns.

"Sec. 8. Be it further enacted, that the school committee, in the City of Boston, and in the several towns in this Commonwealth, be, and they hereby are required to make and return a report to the Secretary of the Commonwealth, on or before the first Monday of June, in the year of our Lord one thousand eight hundred and twenty-eight, and on the first Monday of June of every year thereafter."  

Without centralized control, these first returns were meager as few towns submitted them. With the establishment of a State Board of Education in 1837, annual reports were submitted as a matter of course by towns and cities throughout the Commonwealth. We find from these reports

1/Original Acts and Resolves of 1849. Chapter LXX.
2/Original Acts and Resolves of 1826. Chapter CXLIII.
that there is a great want of attention to the comfort and the health of children. Towns and cities complain of their school-houses—their location, size, structure, external or internal arrangements, ventilation, furniture, etc. The silence of a considerable number of the school committees on the subject does not prove that all is as it should be in this respect.

The School Committee of Pittsfield report:

"The school houses are not suitable for the proper advancement of the important interests of thorough education. Some of them are cold in winter; ....the most of them are inconvenient in the arrangement of seats and desks."1/

The report of the Committee from Middleboro indicate:

"In some of these temples of science where the laws of health are inculcated through the study of physiology and hygiene, there is a terrible counter instruction imparted by the structure of the benches on which the pupil sit and the bad air they inhale for the want of good ventilation."2/

Of the school-houses in Fairhaven, the report is as follows:

"Most of the school houses of this town besides being....poorly furnished with seats and desks, are unprovided with a heating apparatus....deficient in proper facilities for ventilation."3/

1/Eleventh Annual Report of the School Committee, Pittsfield, 1848.
2/Report of the School Committee of the Town of Middleboro, 1858-9, p. 4
3/Report of the School Committee of the Town of Fairhaven, for the year 1858-9, p. 15.
Dartmouth also reports poor ventilation of their school-houses:

"A large majority of the school-houses in Dartmouth are... so ill ventilated that the scholars and teachers are continually respiring a vitiated atmosphere, which impairs the health and lessens the activity of the brain...." 1/

George W. Shattuck, Superintendent of Public Schools in Lowell, remarks as follows:

"... only six out of forty-eight schools are furnished with modern chairs and desks. ... the health and comfort of the scholars demand their introduction into every school.

... The teachers complain of failing health and wasting energies, and of dull, languid and fretful scholars. The whole difficulty is, the want of more light, air, and room.

... I am constrained to say, that the most urgent want of the primary schools is better houses and yards, and better school furniture." 2/

The School Committee of the City of Boston complains of deficiencies in their school-houses and equipment in certain districts:

"There is in this district, /Boylston/ twenty-two Primary Schools. Of these, eight only are kept in buildings owned by the city and constructed with a view to their present use. All the rest are.... deficient in size, in light, in ventilation, in yard-room, and outhouses; and in a word, in everything desirable in a school-room." 3/

1/Reports of the School Committee of the Town of Dartmouth for the years 1858-59, p. 4; 1859-60, p. 3.


The Report of the Committee from West Stockbridge says:

"Our school buildings are all constructed on the same general plan,...and the plan, we think, is not a good one for health, ease, convenience, economy or the right education and development of the pupils.

... Health and pleasantness require the proper ventilation of the school-rooms; ... Health and comfort require a provision of proper seats, which are mostly lacking in our school-rooms."1/

Of the school-houses in East Hampton, the report is as follows:

"The school house in the south-east district, we regard as altogether unfit for the resort of children for an education. They must feel degraded to be pent up in such a place; as well as their teacher. Better accommodations are also needed in the South District, -- a room more spacious, and better adapted to the convenience and health of its occupants."2/

The Committee of Great Barrington say:

"The atmosphere of our school-rooms is sometimes very offensive to one who enters from the open-air,.... Care as well as some physiological knowledge is requisite in a teacher, that children may not be sowing the seeds of fatal disease of the body, while seeking to improve their minds. More regard should be paid, if not to physical education directly, yet, certainly, to some measures for preventing the deterioration of the bodily organs. Seats and desks should be better adapted to the comfort and proper position of pupils. ... But we have no public school in town thus provided."3/


2/School Report of the Town of East Hampton for the year ending February 1, 1860, p. 11.

Ventilation problems in Randolph closely parallel those in Great Barrington:

"Ventilation... is a matter of great importance and we wish to call the attention of the town to the great deficiency in all the school rooms in town, in proper ventilation."¹/

The School Committee of Granville points out:

"We have often spoken on the subject of school-houses and feel compelled to say that in our judgment the people ought not to, and will not, if future committees do their duty, hear the last of it until they arouse themselves and provide better accommodations for the schools. ...Our school houses ought to be made comfortable, convenient and pleasant. All the associations connected with a school-room in the minds of children should be pleasant."²/

In Sunderland also, we hear:

"Some School Houses are not what they should be in all respects. ....The principal faults observed were want of ventilation, ...inconvenient and crowded seats for recitation and uncomfortable seats for little children."³/

Of school buildings in general, New Bedford concludes:

"It has been said by very high authority, that, 'if we were called upon to name the most prominent defects in the schools of our country--that which contributes most, directly and indirectly, to retard the progress of public education, and which most loudly calls for a prompt and thorough reform, it would be the want of spacious and convenient school houses!'"⁴/

¹/The Annual Report of the Superintending School Committee of the Town of Randolph, for the year ending March 1, 1861, p. 13.
⁴/School Reports, 1862-63, New Bedford, p. 18.
In the report from South Hadley, we are told that:

"Some of our School Houses are far from being neat or comfortable. Our churches are frescoed and carpeted; the doors made to open and close noiselessly, the seats cushioned and the rooms warmed in a manner most conducive to health and comfort, and they are occupied about three hours in the week. Our school-rooms are occupied twenty-five hours each week, and yet it is difficult to conceive how the surroundings of some of them could be made less attractive or the internal arrangements more productive of discomfort."¹/¹

Lanesborough quite forcefully brings attention to the poor conditions of its school-houses in this manner:

"The erection of a splendid barn in the close vicinity of one dilapidated school house can not fail to suggest to the passer comparisons between children and cattle quite derogatory to the estimation of the children."²/²

It is needless to extend the list of quotations. Enough has been presented to show that school health in its various aspects had become of primary importance and that through efforts in exposing the serious defects of present structures, constructive and desirable changes in policies would be effected.

However, reforms did not come hurriedly, notwithstanding considerable agitation in favor of school-houses built with a view to the physical health and comfort of the scholars. The movement had its inception during this period, progressing

¹/Annual Report of the School Committee of the Town of South Hadley, 1864-65, p. 7.

very slowly at first, but rapidly as people became aware of the new meaning of education—a meaning in which health, strength and happiness work harmoniously and completely in a child's preparation for the duties of life.

Extracts from school reports in which gradual and progressive changes were apparent are hereby presented to show more distinctly the currents of thought and action already at work with the revival of interest in education, and health education in particular.

Section 18, Chapter 8, page 254 of the Annual Report of the School Committee of the City of Boston in 1859, enjoins the instructors in this manner:

"It shall be the duty of all the instructors to give vigilant attention to the ventilation and temperature of their school rooms. A regular system of ventilation shall be practised, as well in winter as in summer,..."

As early as 1846, Horace Mann perceived the change which was then taking place in isolated sections, but a change, nevertheless, that would ultimately coordinate the preservation of health with the development of intellectual powers in the public schools of Massachusetts.

"In regard to this great change in school-houses, --it would hardly be too much to call it a revolution,—the school committees have done an excellent work,—or rather, they have begun it;--it is not yet done. Their annual reports,...have enlightened and convinced a State."1/

At the inaugural ceremonies held in Salem, in 1854, Mayor Joseph Andrews remarked that:

"The time has gone by, when it was needful to argue the claims of public instruction, or to insist upon the most liberal provision for it, which could be reasonably expected, and profitably employed.

The right of every person to the best education, which a community can afford, is now held to be a well established right; and out of this grows the corresponding duty of providing the means.

...A school house is a better investment, of the common fund, than stocks, or bonds; and ultimately will yield a better return."1/

The School Committee of North Chelsea published certain health rules to be followed in all the schools of the town:

"It shall be the duty of all the instructors to give vigilant attention to the ventilation and temperature of their school rooms.

A regular system of ventilation shall be practised, as well in winter as in summer, by which the air in the room shall be effectually changed at each recess, and at the end of each school session before the house shall be closed.

The teachers shall attend to the physical education and comfort of the pupils under their care."2/

The members of the Committee in Chelsea appealed to the City Government for the construction of hygienic school-houses.

"We trust that the City Government, in view of the bearing of good ventilation upon the health of the

1/Joseph Andrews, "Mayor's Address for 1854," City Documents, Salem, p. 11.

children, will take measures to supply wholesome air in our school houses, upon the principles familiar to the science of the present day.

Unless the body is first cared for, it is vain to attempt to nourish the mind."1/

Medfield is proud of the advancements made in the construction of a new school-house.

"We would not fail to notice that the Central District have erected during the year a large, elegant, and substantial schoolhouse.

...Everything has been done that can be, for the convenience, comfort, and health of all that shall resort to this place for instruction. ...Ample means are also provided for the ventilation of the rooms. The building is fully warmed by a powerful furnace, and upon the roof is placed an approved ventilator. By these two fixtures, a pure, summer atmosphere, may always be obtained through all the rooms, in school hours."2/

East Bridgewater also boasts of many improvements for the health and welfare of school children.

"When we compare our schools of the present with what they were a dozen years ago, we see much evidence of improvement. ....Neat and commodious school-houses have in nearly every district, taken the place of the unsightly and ill-furnished structures which then existed, and poorly deserved the name they bore."3/

The Carlisle School Committee express the belief that their schools render satisfactory service to the community.

"The remark is somewhat common,....that the schools of the present day,...are little or no better than they

1/ The Annual Report of the School Committee of the City of Chelsea, 1859, p. 18.

2/ Annual Report of the School Committee of the Town of Medfield, 1860, pp. 3-4.

were twenty, thirty or forty years ago. If this assertion is made in reference to their capacity for usefulness, their adaptation to the leading purpose of their establishment, we emphatically deny its truth and justice."1/

In Springfield the Committee tried a new method of ventilation with evident success.

"A New mode of ventilating school-houses and other public buildings, has recently been invented by Luther Robinson of Boston, and has been adopted successfully in many school buildings, both in that City and other places; and under the authority of the City Council, as a matter of experiment, it has been introduced here, in the Central Street school-house, and in one of the recitation rooms of the High School, and thus far it has proved entirely successful in its operation."2/

Signs of progress along many educational endeavors are indicated by the school committee of Longmeadow in its annual report.

"Among the signs of growing interest and progress in education may be mentioned, not merely the marked increase of appropriations, but also the erection of new and improved school-houses, the introduction of better school furniture and apparatus, the multiplication of High Schools, Town Libraries and School Superintendents, the increasing demand for trained and competent teachers, and for more permanent teachers....the better gradation and classification of schools, leading to the adoption of more systematic and progressive courses of study, and last but not least the evident decline of the District System: these are some of the most obvious tokens of progress."3/


2/Report of the School Committee of the City of Springfield, 1863, p. 11.

Thus is noticed at this period of our history a growing emphasis regarding one aspect of health education—hygienic school-houses. At one point, there is vigorous condemnation for the atrocious school buildings so common throughout the state; then, a trend toward the importance and need for good school architecture and sanitary school conditions in caring for the health of school children, and finally, the construction and erection of houses suitable in every way to serve the rising school population.

No account of the development of school health education can be accurate even as to essential facts, nor can it reproduce at all the spirit of this great educational revival, without some note of one personality, outside of our own Commonwealth, who pioneered in the field of health education for girls, and whose efforts helped the cause of health education in our own schools. Reference is made to Catherine E. Beecher (1800-1878) of Connecticut, who began her distinguished career as teacher and propagandist when she founded the Hartford Female Seminary in 1828. She furnished the leadership to the cause of the intellectual and social enfranchisement of her sex.

"Three New England women, working independently of one another, are largely responsible for the advance to a standard of instruction higher than that of the average seminary. Each of these made a distinctive contribution to the progressive movement. Emma Willard,
Catherine Beecher, and Mary Lyon espoused the cause of 'female education' with the zeal of crusaders.  

At the annual meeting of the American Association for the Advancement of Education held in Detroit on August 13, 1856, Catherine E. Beecher presented a paper on "Health of Teachers and Pupils." The essence of the discussion centered on the introduction of a system of instruction in the laws of health and a course of physical training in all the schools of this nation.

"Instead of the physical advance witnessed in our father land, there is evidence of such degeneration, and mainly too within the last century, that, should the ratio continue, a few more generations would show the result in a race of sickly and deformed pigmies.

Physicians all over the land testify to the increase of physical debility and nervous diseases, that all show the deterioration of the whole physical organism.

What then is to be done? The first thing is to make the teachers, the children, and the parents understand the case.

For this purpose they need a short, simple course of practical instruction on the laws of health,......

A school-book that is so simple that children, can understand it, and parents will read it.....

......a daily course of physical training in school, in which teachers and pupils should unite.

Could such a system of instruction in the laws of health, and such a course of physical training, be instantly enforced in all the schools of this nation, there would be an immediate remedy for the evils and dangers.....concerned."  


Motivated, no doubt, by the current belief that close application to studies tended to injure the health of girls, Catherine Beecher introduced calisthenic exercises into her school at Hartford and ever afterward stressed health education for women.

"In the age of zoology, Catherine Beecher dared to announce that 'the time is coming when women will be taught to understand the construction of the human frame.'"1/

Notwithstanding the remarkable work of laymen and humanitarians in matters of health and general welfare, the writer cannot ignore the tremendous crusade for health which the Massachusetts Medical Society espoused during the period now being examined. Without attempting any elaborate historical sketch, a momentary glance into the activities of the Society deserves consideration.

The necessity for sound legislation and the organization of competent sources of advice and authority relating to health services throughout the state called this Society into existence and governed its policies.

In 1848, the Massachusetts Medical Society approved and encouraged the plan of a sanitary survey of the State. The following year, 1849, the Legislature of Massachusetts passed a law for the appointment of three commissioners to make a "Sanitary Survey of the State."

"Resolve, That his excellency the governor, by and with the advice and consent of the council, be, and he is, hereby authorized to appoint three persons to be commissioners, to prepare and report to the next General Court, a plan for a sanitary survey of the State, embracing a statement of such facts and suggestions as they may think proper, to illustrate the subject."1/

The Report of the Sanitary Commission of Massachusetts was written chiefly, if not entirely, by a layman, Lemuel Shattuck of Boston, Chairman of the Commission. He was not a physician, but had a wonderful insight in relation to the public health needs of the cities and towns of the State. "I remember Mr. Shattuck well," said Dr. Henry I. Bowditch, in his Centennial Discourse on Public Hygiene in 1876:

"Calm in his perfect confidence in the future of preventive measures to check disease, he walked almost alone the streets of his native city, not only unsustained by the profession, but considered by most of them as an offence, for his earnest defence of what seemed to the majority of us physicians out of a layman's sphere .... The public, ignorant of hygiene, treated him no better. The report fell still-born from the State Printer's hands. Its recommendations were ignored."2/

The Report which was presented to the Legislature in 1850, comprises a great storehouse of valuable information concerning the actual condition of the public health of Massachusetts at that time, and embraces all that could be collected to elucidate the application of sanitary science to the protection of health. It can justly be characterized

1/Original Papers of Acts and Resolves of 1849. Chapter CX.
as the first great step in the sanitary work of our times in the United States.

"The report when published in 1850 laid the foundation of subsequent health legislation and has been spoken of by experts as a remarkable document."

Prominent among the more comprehensive measures urged by Lemuel Shattuck, the following may be mentioned: The establishment of a general board of health for the State; the appointment of a local board of health in every city and town; the adoption of a general and uniform system of registration of births, deaths and marriages; the taking of a decennial census, beginning with 1855; the revision of the laws relating to coroners; the control and regulation of cemeteries by boards of health.

It is interesting to note that measures which strike very many people as startlingly novel were fore-shadowed in the recommendations of Lemuel Shattuck's "still-born" report of 1850. For instance, that report recommends that in erecting school-houses, churches and other public buildings, health should be regarded in their site, structure, heating and ventilation; that measures be taken to ascertain the amount of sickness suffered among the schools and other seminaries of learning; that open spaces be reserved in cities and villages to afford to the artisan and the poorer

classes the advantages of fresh air and exercise.

"Sanitary measures, to be effective, should be carried out at those times when most people see no special cause for anxiety, and often, therefore, appear to involve unnecessary worry and expense.

When such measures are most successful their value may be least appreciated."1/

Many of the Resolutions passed by the Massachusetts Medical Society at its annual meetings started the State on a progressive career regarding health legislation.

"Resolved, That it is the duty of the Massachusetts Medical Society, as the guardian of the public health, systematically to pursue an investigation into the causes, history, and treatment of the diseases of the Commonwealth, in all its various parts."2/

At this point of our history, a large part of the foundation for a scientific study of the public health of the Commonwealth was wanting. It became apparent that the most urgent need of sanitary science was, therefore, the introduction of a uniform system of registration of the principal diseases, and next to this—that which would be an essential part of it—a similar system of registration of births and deaths. That the Massachusetts Medical Society was instrumental in encouraging legislations for the advancement of hygienic standards throughout the State is attested to in a resolution introduced into the Council at its


2/Proceedings of the Massachusetts Medical Society, October Meeting, 1851, p. 81.
meeting of February 6, 1861, by Dr. John Jeffries of Boston:

"Resolved, That the Massachusetts Medical Society petition the Legislature to grant the petition of the Boston Sanitary Association, for the establishment of a State Board of Health, for the purpose of looking after the sanitary interests of the people.

That the Board of Health have charge of the registration of Births, Marriages, and Deaths, and the census of all the other vital statistics of the Commonwealth.

That every member of the Medical Society be requested to use his influence with the senator and representative from his district, to persuade them to support this measure in the Legislature."/1/

Shattuck's recommendations were far ahead of the times, but as a direct result of his work and that of the recommendations of the Massachusetts Medical Society to the Legislature, the first State Board of Health was finally organized in Massachusetts in 1869.

"Sect. 1. The Governor with the advice and consent of the Council shall appoint seven persons who shall constitute the Board of Health and Vital Statistics.

This Act shall take effect upon its passage.

Approved June 21, 1869."/2/

At the national level we observe the formation of a new organization to be known as the American Medical Association. The Association held its first meeting at Philadelphia in 1847.

1/Proceedings of the Massachusetts Medical Society, February Meeting, 1861, pp. 4-5.

2/Original Papers of Acts and Resolves of 1869, Chapter CDXX.
"The American Medical Association completed its organization, and commenced its actual existence in the city of Philadelphia, during the first week in May, 1847.

... On the 5th of May, 1847, the delegates appointed by the societies, colleges, and other medical institutions throughout the several States, assembled in the hall of the 'Academy of Natural Sciences,' in Philadelphia,..."1/

Although not directly concerned with public school health education activities, the American Medical Association nevertheless channeled its resources to raising standards of medical instruction in colleges and to establishing a code of ethics for the medical profession.

"The preamble attached to the constitution declared the purpose of the organization to be 'for cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor and interests of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; for exciting and encouraging emulation and concert of action in the profession, and for facilitating and fostering friendly intercourse between those engaged in it.'2/

Inevitably the schools and the children of the Commonwealth were to benefit tremendously from such organizations designed to improve the physical condition of the individual


and of the group to which he belongs. At this point, however, the little that could be done in the schools in this direction was effected by teachers and educators guiding children under their charge into proper mental and physical habits.

"Just as all kinds of stimulation have increased, the habits of physical exercise have decreased.

Is there a remedy?

....there is....a sure and speedy one; ....this remedy is in the hands of the teachers of this nation, more than any other class of persons."1/

That the subject of teacher training in health and physical education germinated in this period of public school revitalization is attested to by many prominent writers on the subject who constantly urged teachers to seek out the knowledge and training necessary to coordinate the intellectual development of school children in harmony with their physical growth.

"If we as teachers take this matter of physical exercise in school into serious consideration, determined to cultivate the physical well-being of our pupils as enthusiastically and systematically as we do the intellectual, we shall see even in our day, a better and happier, because a healthier race, coming on to the stage of action, and future generations will rise up and call us blessed."2/


To further illustrate the importance of the teacher's role in fostering the current ideas on school health, the writer presents an excerpt of "Letters to a Primary School Teacher" which appeared in the Newburyport Daily Herald under the pen name of Utopia, in April, 1843.

"It will be necessary for you to go out of your room occasionally and return to it, in order to ascertain the state of the air; for one may get accustomed to breathing a foul atmosphere so as not to perceive its foulness. ....Be careful about the temperature of your room; ....avoid sudden changes;--keep the thermometer, if you have one to keep, at about 60° to 65°. ....At recess time, look out for those disposed to stay in,--those pale-faced, narrow-chested, feeble-framed boys inclined to continue bending over their books or to gather around the stove,--look out, I say, for those and drive them forth, for they are the very fellows that need exercise most, and most frequently. ....Send them out,--lead them out,--run with them, if they will not run of themselves, and you will do them more good than if you taught them the whole multiplication table in a single forenoon.

I will add that you must care for your own health and brightness. If your school-house is near your residence, take a long sweep to get to it; for you will find in this case, and in a most important sense, 'the farthest way round is the shortest way home.'"\1/

As this historical narrative slowly moves forward to a period of general awakening and scientific progress, what tangible evidences are there that there was now a readiness to act and to train individuals who were to become leaders in this school health movement? Educational Boards undertook

\1/Utopia, "Letters to a Primary School Teacher," The Newburyport Daily Herald, April 21, 1843, cols. 1-2, p. 2; April 24, 1843, cols. 1-2, p. 2.
in their reports to speak earnestly of the importance of ventilation, healthful school-houses, and other hygienic measures which tend to preserve the health of the body. But who was to take the initiative in laying a firm foundation for the healthy physical development of the growing generation attending the public schools of the Commonwealth?

Some of the credit is given to Dr. Dio Lewis (1823-1886), author and reformer, for establishing in Boston in 1860 a normal school to train qualified teachers of physical education.

"No man in our time in the department of physical training has made 'his mark' so palpably and so persistently as Dr. Dio Lewis. His talks, and 'demonstrations' ... and his own imperturbable good nature and inexhaustible enthusiasm, and the faith 'which removes mountains'--all have brought up the subject of physical training into the school and the home, beyond anything we expected to see in our day."1/

Dr. Lewis was educated to the profession of medicine at Harvard Medical School, and began the practice of medicine in his native town of Auburn, New York, in 1845. Unceasingly occupied with "the ounce of prevention," he turned to lecturing and writing, in 1855, on the subject of public and personal hygiene, in this country and in Europe.

"Educated to the profession of medicine, and mingling for many years, principally with those classes who suffer most from non-observance of the laws of health, I came, many years ago, to think somewhat

seriously of that ounce of prevention which is worth tons of cure.

I examined the German gymnasium, the one so much in vogue throughout the United States, with great care. Entering one of these institutions as a pupil, I studied the anatomical and physiological bearings of its many exercises. I found that they were not well adapted to children, ....and about eight years ago I began the attempt to devise something better. "1/

In 1860, having completed his new system of gymnastics, he abandoned the platform and settled in Boston, Massachusetts to establish his Normal School for Physical Training.

"I came to Boston nearly three years ago, to found a Normal Institute for Physical Education.

The first class, which assembled on the 5th of July, 1861, graduated in the following September. Fourteen ladies and gentlemen received the Diploma of the Institute, and went forth to labor in the new profession.

Of the second class there were eighteen graduates.

The Third Class assembled on the 5th of July, 1862. ...twelve were deemed fit to receive the parchment of the Institute.

Of these teachers, many are itinerating and doing remarkably well; ....Those who have had some business experience, and possess enterprise and capacity, have achieved a success which has more than realized their most sanguine expectations.

It now seems obvious that such an institution was a public necessity. Many of the prominent educators of New England have become warmly interested in the success of the movement.... "2/


2/ibid., pp. 666-667.
Besides his great interest in the cause of "physical redemption," Dr. Lewis published many books on the various aspects of the health of the human body some of which were: *Our Digestion*, 1872; *Talks About Health*, 1871; *Our Girls*, 1871. He also contributed freely to various school journals articles illustrating and explaining the peculiarities of his system. He may justly be considered as having inaugurated a new era in physical education in schools of this country not only as a branch of education for healthy persons, but also as a remedy for disease.

Closely allied with the development of a newer and better type of school-house construction came another movement to take better care of the health and physical welfare of the children attending these schools. The beginnings of such an interest may be said to have arisen with the introduction of courses in physiology and the setting aside of regular time for physical exercises during the school day.

"Within the last few years a great deal has been said and written upon the subject of physical education, by all sorts of persons. That it was necessary to awaken the people—to instruct them—to show how a refined civilization had a tendency, under modern training, to ruin the body in developing the powers of the mind, will not be questioned."1/

These two factors initiated during this period have had

a far reaching influence upon inculcating habits of health in school children.

"Towards a perfect system of education, it is necessary there should be a balance preserved between physical and intellectual cultivation. When the mind is closely occupied, the body should be carefully guarded. If the pursuits of the former are severe and absorbing, those of the latter should be cheerful and relaxing.

Exercise is so material to physical education, that it has sometimes been used synonymously, though it really constitutes only a part of it."1/

To trace this movement of a need for health education and physical education is to trace the movement toward more effective control of diseases through an enlightened general public. To be sure, such early teachings in anatomy and physiology was not health education as is found in the schools today. But, such as it was, it was the basis of the modern movement.

At first, the introduction of health as a school subject took the form of a course in physiology. Later, the complication of the educational idea simply added force to the movement for special agencies and functions of health in the schools.

In Massachusetts, Horace Mann stood as our guiding force in matters of health education during the thirties and forties. His Reports are replete with admonitions and

solicitations regarding the preservation of health, the practice of health-forming habits, and exercises, and a knowledge of physiology.

"How intelligible, then, and how authoritative, does the doctrine become that high health and high health alone, is harmony with nature! ...Health is the prime instrument for the performance of all the labors of life.

My general conclusion, then, under this head, Physical Education is, that it is the duty of all the governing minds in society,—...to diffuse a knowledge of these beautiful and beneficent laws of health and life, through the length and breadth of the State;—to popularize them; to make them, in the first place, the common acquisition of all, and, through education and custom, the common inheritance of all.

...Let Human Physiology be introduced as an indispensable branch of study into our Public Schools; let no teacher be approved who is not master of its leading principles, and of their applications to the varying circumstances of life."}

There was a definite trend toward increased knowledge in matters of health at this period. The importance of school health education was being recognized generally by writers, medical men, non-medical authorities, and educators alike. Articles on health appeared in national newspapers and publications.

"The business of promoting and securing health, merits the most serious attention, not only of physicians, but of legislators and the people; and the place assigned it in every plan of national education

should be worthy of the value of its object."1/

At the Fifth Annual Session of the National Teachers' Association presided over by John D. Philbrick, Superintendent of Schools in Boston, a paper was read on the subject of "Physical Education in School" by S. W. Mason, Principal of Hancock Grammar School, Boston, Massachusetts. In his discourse, he voices opinions and ideas on the subject that are still part of our general philosophy of health education today.

"The importance of systematic, rigid physical training, is now conceded by most educators; indeed so generally is it acknowledged, that any argument in its favor is unnecessary for the purpose of arousing teachers to a proper sense of its value as a means of culture.

The particular form it shall take or the methods adopted for carrying it out, will long remain a matter of abstract and experimental investigation, each person interested, ....contributing something of his experience and thought toward the realization of the grand object --the highest efficiency and well being of mankind, morally, intellectually and physically."2/

Massachusetts School Committee Reports between 1857-1865 contain numerous references regarding the need for the teaching of health and the practice of physical exercises in the schools of the Commonwealth. Justice cannot be done in interpreting this new movement by a mere formal statement to that

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1/John G. Coffin, A Discourse on Medical Education and on the Medical Profession, Ingraham, Boston, 1822, p. 4.

effect. Much more can be gained by presenting to the reader the thoughts and actions of the various towns and cities in attempting to reach a satisfactory solution to a problem which was rapidly gaining in scope and extent throughout the nation.

Physical and Moral Education is mentioned in the School Committee Report of Easton in 1857:

"Physical education is the great want of the age. Eminent physiologists express the opinion that man is deteriorating physically....

...Let us hope that the subject of health, at no distant day, will be looked at in its true light, and excite the attention it deserves and demands."1/

Lowell School Committeemen, in 1857, were in accord with Catherine E. Beecher, whose essay on school health was mentioned earlier in this report; and in 1860 the matter of physical education appears for discussion.

"If, as has been affirmed by many writers of the present day, the human race in our country is deteriorating, one great reason is to be found in the insufficiency of bodily out-of-door exercise. .....To complete our education we must pay more attention than we now do, to the laws of physical health."2/

"Physical Training. The subject of Physical Training, in connection with mental discipline, is at present attracting much attention among educators, and has become a popular topic for discussion at education meetings. .....the absolute dependance of the mental upon the physical, has opened our eyes to the fact that

1/Abstract of School Committees' Reports, Easton, 1857, pp. 99-104.

book learning is too often acquired at the expense of bodily vigor."1/

George S. Boutwell, Secretary of the Board of Education, remarked on the importance of applying the knowledge gained through courses in physiology and hygiene:

"It is to some extent true, that the duties and exactions of the schools seriously test the health of pupils.

School life, as usually conducted, is physically injurious, and our best efforts thus far have been limited to the dissemination of elementary knowledge of physiology as a science, .... Neither physiology nor hygiene can be of much value in the schools as a study unless there is an application of what is taught."2/

1/Lowell, op. cit., 1860, p. 29.

2/Twenty-Second Annual Report of the Secretary of the Board of Education, Boston, 1858, p. 55.
4. Massachusetts School Reports on Health Education 1857-1865

A comprehensive study of Massachusetts School Reports of 1857-1865, reveals that many cities and towns are openly discussing the subject of school health and are attacking the problem with varying degrees of effectiveness through offering courses intended to give pupils a basic knowledge of the laws of health or through demanding more out-of-door exercises as part of the school program. The great majority of the reports show a general trend toward the importance of adopting appropriate measures for the protection of the health of school children—at least in words and thoughts if not in deeds.

The town of Abington reports that a course in Physiology is being offered in the second and third terms in the high school, in 1862-63.

AUBURN, 1858-59, p. 4:

"Much might be said of physical education in the school room. ....Position, exercise, relaxation of mind and body, and the rigid practice of the rules of physiology, are exceedingly essential to the health as well as the education of those as dear to us as our own lives. The responsibility devolves in a great measure upon the teacher, but not a little also upon the parents and the custodian of the school room."

BERLIN, 1858-59, pp. 4-5:

"'Education' embraces also a proper regard to physical development and nurture.

The subject of physical education and bodily development in connection with intellectual training, is undergoing renewed discussion in places of high
authority. We feel confident that it is not yet sufficiently understood, even among the best informed. Our children suffer less, perhaps, than those in cities and manufacturing villages. But the subject has its application to every community."

BEVERLY, 1865, pp. 11-13:

"Physical Culture.--Is it desirable to have a sound mind? And is it of no consequence whether it exists in a sound body?

With an originally good constitution much may be done by proper training, to secure permanent health. And with an originally feeble constitution... much may be done by such training, to promote the future welfare of the body, hence of the individual.

The Statutes of the Commonwealth prescribe training for the intellect and the heart. Why should not common sense prescribe it for the body?"

John D. Philbrick, Superintendent of Public Schools in Boston in 1860, maintains the opinion that good scholarship and good health are not incompatible with each other. He discusses "The Want of Physical Training" in his annual report of that year, pp. 55-60:

"I shall waste no time in arguing the importance of bodily health, strength and beauty, as elements of individual and public prosperity and happiness.

... Under the present conditions of city life at home and at school, a child stands a poor chance to enter upon the career of life having a good physical system, a body healthy, strong, well-formed, and of good size.

... it is frequently observed that the city boy, with all his knowledge and mental training, is outstripped in the race of life by the boy from the country, with little book-learning, but with a body invigorated and hardened by the gymnastics of the farm and by an unstinted supply of pure mountain air.

Protracted confinement in ill-ventilated school-rooms has been far more destructive to health than hard study."
the practical question for us is, what ought to be done in our schools to arrest physical deterioration?

The principal remedy which I would suggest is the introduction into all grades of our schools, of a thorough system of physical training, as a part of the school culture.

In his Annual Report of 1861, Superintendent Philbrick presented the following recommendations in an effort to direct attention to increase care for the preservation of health of the school children:

"1. That a Standing Committee of Physical Training be appointed,....

2. That this Committee be authorized to appoint and nominate to the Board, a suitably qualified person to aid and instruct the teachers in the training of their pupils in physical exercises....

3. That the time devoted to these exercises shall not exceed half an hour each half day, nor be less than a quarter of an hour."

That the above recommendations were not accepted immediately is indicated by Superintendent Philbrick's remarks the following year, p. 13:

"One year ago, in obedience to what was felt to be an imperative duty, I earnestly invited the attention of the board to the importance of adopting some measures for the protection of the health of the pupils in our schools, and of securing to them a better physical development.

This proposed reform....as long as it is deferred, we are losing a part of the benefit which we might otherwise derive from our noble system of popular education."

In Boston School Reports of 1865, pp. 35-39, the following rules of the School Committee pertaining to health
were in operation throughout the Boston schools:

"Sect. 19. It shall be the duty of all instructors to give vigilant attention to the ventilation and temperature of their schoolrooms.

Sect. 22. The masters, ushers, and teachers in the Public Schools shall so arrange the daily course of exercises in their respective classes that every scholar shall have daily, some kind of physical and gymnastic exercise;

Sect. 32. No pupil shall be admitted into any of the Public Schools without a certificate from a physician that he or she has been vaccinated, or otherwise secured against the smallpox;

Sect. 33. No child who comes to school without proper attention having been given to the cleanliness of his person and of his dress, or whose clothes are not properly repaired, shall be permitted to remain in school, but shall be sent home to be prepared for school in a proper manner."

BOYLSTON, 1858-59, p. 7:

"Physiology has received less attention than usual, and less than we think it deserves. We hope not to see the text books of Physiology abandoned, but rather a new interest in the study awakened, as tending in its results to the preservation of that which all feel to be the greatest of human blessings, --HEALTH."

BRAINTREE, 1863-64, pp. 9-10:

"It being apparent to the Committee, as it must be to every observing mind, that the physical status of the youth of our country, of both sexes, has, during the last twenty or thirty years past, undergone no trifling depreciation, they have deemed it important that the study of Anatomy, Physiology, and Hygiene should be introduced. How can it be expected that men will obey laws, the existence of which they themselves are ignorant of. A knowledge of our being is necessary to the preservation of health."

BRIDGEWATER, 1858-59, p. 34:

"Physiology is memorized...but not practised. We have seen a class in this useful science studying a
lesson...in a posture that betrayed entire obliviousness of the structure of the chest and of the packing of its contents."

In BRIGHTON, 1862-63, p. 18, a course of instruction in physiology was given at the high school, in the second class, third year.

BROOKLINE, 1859-60, pp. 11-13:

"The subject of Physical Education has been exercising the minds of many parents, and, we think, with reason. The importance of a sound mind in a sound body is universally acknowledged theoretically; but, practically, it is almost ignored among us.

The pupil who can answer, intelligently, almost any question that can be propounded within the range of his or her studies, but whose sickly hue, whose hollow chest and attenuated limbs, excite the interest of the beholder, has become almost a type of the New-England scholar. This should not be so; and, as long as it is, you cultivate the mind in vain.

The lessons may or may not be too long, abstractly considered; ....But the difficulty is not in the lesson: it is in the entire want of proper physical preparation for the mental exertion, the constrained position, the vitiated air, of the schoolroom.

Until all this is rectified, we may do what we will to improve our schools; ....but the grand total will not be satisfactory."

CAMBRIDGE, 1864-65, pp. 10-13, offered a course in physiology at the high school in the second year. The School Committee in its School Report of that year advised parents to initiate closer supervision in matters of poor health, at home, for which school activities are needlessly taken to task as fostering:

"Health cannot be preserved without bodily exercise and the habits of a child in respect to exercise are not
much under the control of the schoolmaster. Health may be injured as much by exposure to the night air, and by late hours at parties and consequent insufficient sleep, as by evening study, and injury received through indulgence in pleasure is often set down to the account of school tasks."

CHARLESTOWN, 1862, p. 23, offered a course in physiology at the high school, in the Fourth Class, First Year. Cutter's First Book was being used as text.

CHELSEA, 1858-59, pp. 5-6:

"Physical Education. On this subject much might be said, for in the school-room is laid the foundation of many a disease, and of premature death.

The rigid practice of the common principles of physiology in the school-room would be one of the best possible guarantees of the health of the young, and ultimately of that of the public."

Chelsea offered a course in physiology in the high school, Fourth Year, First Term, as an elective in 1859. By 1864, physical exercises were introduced throughout the schools with appreciative results (p. 16):

"The introduction of physical exercises into our schools has been attended with beneficial results. As an offset to the injurious effects of excessive application to study, the value of these exercises can hardly be overestimated."

DANVERS, 1864, p. 8:

"... Much is now being done to introduce a system of Physical Education, that shall be practicable, and while it diverts the mind from close continued application, shall give health and vigor to the body."

SOUTH DANVERS made physiology a required study in 1859-60, p. 11.
DEDHAM, 1858-59, (p. 7) requested practical application in the study of physiology and hygiene:

"...Physiology and Hygiene are to be recommended, .... This study has been pursued in but few of our schools during the past year, .... No study, it is believed, can be pursued with greater advantage, than the laws of health, where care is taken to make the study of practical application, ...."

Physical education and physiology are recommended by the School Committee of FALL RIVER in 1859-60, pp. 19-20:

"We would recommend all teachers to encourage their pupils to take healthy and invigorating exercise, ....

....It should also be the duty of the teacher to instruct his pupils in the laws of health. For this reason we consider it important that Physiology should be studied in our schools, ...."

FOXBOROUGH, 1861-62, pp. 23-24:

"Physiology was regarded in its true light by most of the teachers and by their united efforts with the different classes it was rendered one of the most interesting, as well as profitable studies taught. This important branch was pursued by every school in town.... with general exercises in physical training."

After perusal of the School Committee Report of the town of GRANBY, it is interesting to note that physical education is slowly making headway by 1862, p. 7:

"We would call attention for a moment to the Physical training of the children in our schools. ....True, it has not been considered generally, as coming within the teacher's legitimate duties; but is a cheering sign that a different opinion begins to obtain in the community."

GROVELAND, 1858-59, pp. 3-13, intimated that a simplified textbook on the subject of physiology and hygiene would be of great value:
"Health is the richest boon that Heaven ever bestowed upon man; and without it all other blessings are comparatively valueless. And here let us stop and thank Massachusetts for the law—and through her every legislator who voted for it—whereby 'physiology and hygiene shall hereafter be taught in all the public schools in this commonwealth....' ....And we hope that the text-book will be so simplified ere long, that the youngest pupil in all the schools shall be able to learn something of its meaning and importance."

List of books prescribed by the School Committee:
Cutter's *Physiology."

HAVERHILL, 1860, p. 15, pointed out the need for physical culture:

"....In speaking of physical culture, we do not recommend that the school room should be made a Gymnasium, and yet, the body must be cared for, health and comfort must be consulted."

The School Committee, LEOMINSTER, 1858-59, pp. 15-16, reported the use of Cutter's *First Book in Hygiene* in its common schools.

Henry K. Oliver, Superintendent of Schools, LAWRENCE, 1859-59, p. 38, remarked as follows:

"Of the great importance of relieving the monotonous 'sit-still' of the children in our Primary and Mixed Schools, it can hardly be necessary for me to speak. ....It seems as though a proper consideration that the body should be cared for, had been ignored in the details of the daily workings of these Schools;...."

Physiology appeared in the High School Course of Study as a subject listed in the Third Year of the English and Classical Departments of Lawrence High School.

LOWELL, 1861, pp. 31-32, presented a Report of the Committee on Physical Training:
"No private boarding school would for a moment, be regarded as worthy of patronage, where physical education was neglected, and no considerate, thoughtful parent would trust his child in such a place. Is it less important to our public schools, than to private seminaries? ....Man is constituted of both mind and matter, and it is according to the everlasting, unchangeable laws of his being, that the two shall grow up and be educated together.

Physical education has now been introduced into our school system."

Physiology is presented at the high school level, in the First Year.

In its Thirty-Eighth Annual Report, 1863, pp. 11-13, the Lowell School Committee referred to the progress being made in Physical Training in this manner:

"....When first introduced into our schools, it met, on the part of some, with opposition and ridicule. ....The Committee are happy to believe that opposition to these physical exercises is fast receding before the light of experience.

Our gymnastic exercises, if carried out, as they should be, can hardly fail of strengthening and invigorating, not the limbs and muscles alone, but the entire organism of the body."

A Four Years’ Course in the Lowell High School, 1862, p. 36, include the study of physiology in the second six months of the first year.

The LYNN School Committees of 1860 and 1865 discussed physical education at great length:

"1860--(p. 20) The system of education is wrong, which does not have for its end a well developed body, as well as an instructed and educated intellect. ....This subject is receiving unusual attention at the present time, and it is quite possible that the thing may be over done."
1865--(pp. 35-36) As the direct object of education is to fit the individual for the greatest usefulness, it embraces not simply moral and intellectual culture, but the proper development of the body by physical training. ....Our recent and protracted experience in war teaches us a lesson never to be forgotten, that the very existence of a nation depends upon the muscular power, the strong arm and health of the people, as well as upon their morality and general intelligence.

The soldier, who perils his life in defence of his country, has privations and hardships to endure; ....it is indispensably necessary that our young men should be physically competent for such endurance, and our education must be such as to prepare them for it; otherwise our national life must become extinct, and our republican institutions a failure and a mockery among the nations of the earth.

Having sound bodies as well as sound minds, .... who can tell what a bright, beautiful and glorious future is in store for us as a people:"

The LYNNFIELD School Committee of 1859-60, p. 9, appraised Education in its comprehensive meaning as an intellectual as well as physical process:

"Education in its comprehensive sense, is the development of the faculties of the child, both intellectual and physical. Either alone does not render man what both united make him. In some of the emergencies of life, mere intellectual attainments might be entirely useless, through want of physical ability to effect the object desired.

Intelligent men everywhere see the incompatibility of intellectual culture and physical neglect. Hence a move is being made to establish gymnasiums in colleges and other institutions of learning, to improve and preserve the health of students."

The MALDEN Committee of 1858-59, p. 14, dismissed the subject of physical education in this manner:

"No special attention seems to have been devoted to this subject by our teachers. ....We have seen no
indications that any of the pupils are so overtasked with study as to injure their health. "...If the children of Malden suffer physically we believe it must be from habits formed and indulged elsewhere than in school."

However, by 1865 gymnastics and physical exercises were introduced into the schools of Malden (p. 28):

"It is easy to see that much good has already been effected by the introduction of gymnastic exercises into the schools of Malden."

MANCHESTER, 1861, p. 10:

"The subject of physical education has of late attracted much attention; with us it is a novelty. Calisthenics or Gymnastic exercises have been very successfully adopted in many of the public schools of this State. ....These exercises have been introduced to a limited extent into this school [high school], and the scholars find recreation and amusement, as well as renewed physical energy."

MARBLEHEAD, 1858-59, p. 17:

"The change in that law, by the last legislature, which leaves it optional with School Committees to have Physiology taught in the Grammar schools,—instead of obligatory upon them as before,—has allowed us to omit it from the list of studies....of the High School course, leaving to the teachers of our Grammar schools the duty of imparting needful knowledge of Physiology by occasional lectures and illustrations."

In 1861-62, p. 51, the Marblehead School Committee stressed the importance of physical improvement:

"....We should remember that health is paramount to all other blessings, and that no one can enjoy it without a knowledge of its laws. ....Lectures should be given to the young in this important science, by those who understand the subject, and a regular course of study marked out for their physical improvement."

The MEDFIELD School Board, 1859, pp. 10-11, supported physical development and exercise:
"...We believe that...intellectual culture might be more rapidly advanced, if greater care were bestowed on their postures, movements, and occupations in school.

Better send the child out to exercise its limb and divert its mind in the open air. You will in the end have gained more, in this way, for his intellectual improvement.

...Teachers should be thoroughly acquainted with human nature, and with the simple laws of health.

The Medfield School Committee in 1862, pp. 8-11, deplored the lack of instruction in the laws of health to its school children:

"We earnestly wish that,...Hygiene—that is, the general laws of preserving health—might be studied in our schools. ...Parents frequently feel no interest in having children become familiar with those great laws, on which the preservation of health depends.

...What we now plead for is, that the young should become familiar with a few brief hints and rules in regard to the means of averting sickness and disease.

Not a great amount of time would be required in this study,... An intelligent teacher might take Jarvis' or Cutter's book on Anatomy and Physiology, and select simply that part which treats of Hygiene.

Will parents and the friends of education encourage and warmly advocate the study of the laws of health in our District Schools?"

MELROSE, 1862, p. 3:

"It is not to be expected that our public schools will, at present contribute directly to the cultivation of the physical powers. Still, teachers should pay more attention to correct postures, graceful walking, and to the character of out-door amusements.

Teachers should be careful to guard against any violation of the laws of physical health."
Some attention is given to physical training in the schools of Methuen, 1863, p. 18:

"Perhaps there is no subject more fully discussed by the educators of the present day than Physical Training. Its importance is now admitted by all, and this long neglected branch of education is beginning to receive, as it most certainly should, some attention in our Public Schools."

Charles L. Swasey, member of the School Committee, 1858-59, New Bedford, criticized the study of Physiology as undertaken in the schools of the town (pp. 29-30):

"Two classes in Physiology were examined. ....I am still of the opinion that it is an unprofitable study in our Grammar Schools.

An occasional lecture from the teacher to his scholars on Hygiene will do them more real good than a series of recitations from books called "Physiology for Schools."

Newburyport, 1862, p. 13, offered a course in physiology, English Department, second year, high school.

Newton, 1863-64, pp. 38-40, alluded to the physical debility of its young men as found in the history of the recent National Draft:

"The facts....found in the history of the recent National Draft....has furnished a new gauge for the admeasurement of physical stamina, and it has made revelations of physical health, not at all flattering to our National vanity. ....nearly one-half of the conscripts have been exempted on the ground of physical inability."

....how shall the evil be checked,....only by the diversion of a due portion of our educational forces to an earnest study of the laws and a systematic development of the body. Physiology and Gymnastics, the one teaching how to live, and the other how to unfold and invigorate the energies of life, must no longer be permitted to hold a secondary place, or what is more
common, no place at all, in our public schools."
The School Committee of ORANGE, 1862-63, p. 9, appealed to parents in this manner:

"Every parent wishes his child to grow healthy and strong, but not one in fifty realizes that we constantly endanger that child's health and life by disregarding the commonest laws of physiology and hygiene. This study should have a more important place in our schools than it now does, and it will have when parents are satisfied of its vital importance."

PRINCETON, 1868-59, p. 10, urged the townspeople to correct the overheated atmosphere of its schoolrooms:

"In placing our children at school for the purpose of having their minds stored with useful knowledge, we are not to lose sight of their physical welfare. If we would have them possessed of sound minds, we must see to it that those conditions are observed, which are necessary to give and preserve sound bodies.

...It is a melancholy fact, that many of the diseases which prey upon the young,... have their origin in the vitiated air, or the overheated atmosphere which pervades the school room."

QUINCY, 1862-63, pp. 18-19:

"...It is essential to the full development of the whole man, and for the healthy and vigorous action and performance of the functions of his nature, that all his powers and faculties,—vital, animal, and intellectual,—should be educated together and in harmony. It is on this high ground, that the more enlightened friends of our public schools place physical training."

READING townspeople, 1863-64, pp. 13-14, objected to the introduction of physical education in its public schools:

"...Gymnastic exercises have been introduced into all of our schools, and, aside from the advantages which accrue, in a physical point of view, to the health and physical development of the pupil, they have proved of much value to teachers in securing good order."
We are aware that there has been some objection to the introduction of these exercises in our schools.

A system of physical exercises was adopted in the public schools of ROXBURY in 1859, p. 30:

"...The teachers have adopted a system of physical exercises, which serves not only for amusement, but also conduces to the health of their young pupils."

SALEM, 1861, p. 31:

"It is often urged that physical training should form a part of education in every public school. But while the development of the physical powers appears to be no part of the legal province of the common school, it is a manifest duty of those who control public instruction to guard by every possible precaution against injury to the physical well-being of those instructed, and to see that they suffer not from want of pure air, a proper temperature, sufficient exercise, or suitable furniture and other appurtenances to the school room."

In looking through the records, it is found that Cutter's First Book in Anatomy and Physiology was used as textbook in the Grammar Schools of Salem in 1858-59.

The School Committee of SANDISFIELD, 1859-60, p. 7, deplored the lack of suitable playgrounds adjoining school-houses:

"What a pity, in a country where land is so cheap, that suitable play-grounds cannot be connected with our school-houses, where the pupils can engage in their sports without resorting to the highways.

There is danger of confining the education of our children within too narrow limits. ...They understand not the organization of their own bodies, nor the laws to which they are subjected."

Nothing of real importance in the field of health appears in the School Committee Reports of the city of SPRINGFIELD for
the years 1841-1860. By 1861, p. 49, a section devoted to "Health and Physical Training" was added. The Committee's recommendations were as follows:

"Every necessary attention should be given by teachers to the care and preservation of the health, and, incidentally, to the proper physical training of their pupils--by keeping the school-rooms neat and tidy, and regulating its temperature so as to be neither too cold nor too hot--by proper ventilation, by affording seasonable opportunities for bodily exercises and recreation."

In the Department of Physical Science, TAUNTON School Report of 1861-62, p. 196, is found the following school regulation:

"The whole class shall commence Hooker's Physiology, and shall recite one lesson per week, for which recitation the principal may at his discretion substitute a lecture on the same subject."

TOPSFIELD School Committee, 1858-59, p. 7, disapproved of physiology, as a practical subject to be included and taught in the common schools:

"As to the higher branches, Physiology and most of the ologies, which are directed by the Legislature to be taught in our common schools, we think they should be confined to the higher schools. It ought not to be required of teachers to be learned in these branches; they belong more particularly to professors in Colleges and other high institutions of learning."

WORCESTER, 1860-61, p. 19:

"Many important educational questions, which, during the last century, have engaged the attention of the public and the deliberations of legislators, have been definitely settled, never again to be discussed in New England."

But as soon as one question is settled a new one
rises. That now uppermost is physical education. Whether physical education is necessary or desirable is not the question, for all agree that it is both; but the question is whether the public shall undertake the physical as well as the mental education of all the children of the Commonwealth or whether this necessary part of every child's education shall still be left to the care and wisdom, or the negligence and ignorance of parents."

Despite the modern tone of these documented reports, it is questionable just how much the admonitions and ideas presented were put into actual practice. Suffice it to say that Massachusetts school leadership, at this period of school health development, evinced a deep concern over the apparent physical needs of its budding citizenry. Educators became aware of the intimate and mutual relation of mind with matter, of the mental with the physical, to the end that the one cannot be neglected without detriment not only to itself, but also dragging the other down to the same low level. This consciousness prompted these leaders to point out the flagrant defects of their present system of schooling and to attempt remedial practices, through the legitimate channels of instruction, embodying mental alertness with physical vigor.

"Physical Education relates to the body. To it belong the proper training and strengthening of all its powers, and the avoidance of everything calculated to injure its structure. Nature here is the great preceptress. ....Our present duty, then, will be chiefly to point out the deviations from Nature's course while the child is at school.

The first and most striking error, ....is the unnecessary confinement to which the child is subjected.

The next evil, imperatively calling for a remedy,
is the improper location of the school houses...."1/

"The knowledge of physiology,... not being wanted, we have neither teachers nor books for the people until recently.

... having no general interest in, nor regard for, the laws of life, the human race has made less improvement in health, strength and capacity than it has in other matters.

Moreover, there seems to be an instinctive aversion to the study of anatomy and physiology.

One would suppose, that, such is the love of life, and so great are the enjoyment and the profit of health, men would eagerly study the laws and circumstances most favorable to these. But this is not the fact...."2/

Horace Mann presented a faithful history of the observations, thoughts and feelings of the period on the subject of health in his Sixth Annual Report as Secretary of the Board of Education. The concluding paragraph of his physiological treatise emphasizes the merits and advantages resulting from such a knowledge for the enjoyment of good health and long life.

"The greatest happiness and the greatest usefulness can never be attained, without that soundness of physical organization which confers the power of endurance, and that uninterrupted enjoyment of health which ransoms the whole of time and means from sickness and its expenditures. In the great work of education, then, our physical condition, if not the first step in point of importance, is the first in the order of time. On the


broad and firm foundation of health alone, can the loftiest and most enduring structures of the intellect be reared;...."1/.

Thus the observation is presented here that the groundwork in school health education excited, within this period of National and Commonwealth history, an unusual degree of interest, yet, not so much as its importance demanded. It engaged the attention of some discriminating minds, and enlisted the feelings of some ardent hearts. Notwithstanding, these were much fewer than the public good required. In spite of the many great obstacles yet to be overcome, the general development of school health education in the Commonwealth of Massachusetts kept pace with the evolution of the State's system of public schools. As more and more financial support, through taxation, was given to the fostering of education, it was natural that the people should desire better health standards to be established through the medium of the public schools.

This period of groundwork is the transitional period of American education and of American social, industrial and political life. School health education reaches back into the beginnings of American education, and exhibits years of groping after health standards commensurate with the standards of modern health education. The factors taken

1/ Horace Mann, Sixth Annual Report of the Secretary of the Board of Education, Boston, 1843, p. 160.
together in the order of their periods of predominance in school affairs mark the movement wherein health education becomes not merely a permissive undertaking, but forges ahead to achieve rightful recognition as a cardinal principle of education.
5. Summary

The industrial, economic and social changes which so distinguished the early and middle nineteenth century in America inevitably impressed themselves on educational institutions and practices— they were compelling forces that gave new powers and new directions to popular learning.

It must not be supposed that the educational revival of the period was a single or unrelated phenomenon in respect to the development of the Commonwealth. History is continuous and cannot be cut up into arbitrary periods. Historic events are parts of historic movements and men who achieve recognition have built on foundations laid by forgotten workers.

The essential accomplishments of the period 1830-1865 were instrumental in establishing a firm foundation for the introduction of needed health reforms in the public schools of Massachusetts.

To remedy the evils existing in the crowded living centers of immigrant workers, humanitarians and benevolent societies joined forces in spreading health instruction to the masses. In Boston, The American Physiological Society, established in 1838, fostered the movement for the introduction of physiology as a branch of learning throughout the schools and colleges.

The first State Board of Education was organized in 1837 under the leadership of Horace Mann, Secretary.
Mann labored unstintingly for the establishment of acceptable standards of health in all the schools of the Commonwealth.

Henry Barnard's Essay On School Architecture influenced many healthy reforms in the construction of school houses.

James G. Carter for many years deplored the neglect of public schools and advocated many timely measures for their improvements.

Early Massachusetts School Reports depicted the miserable conditions of school houses in general. Later School Reports attested to improved conditions in the construction and repairs of school houses.

The Massachusetts Medical Society approved a plan calling for a sanitary survey of the State. A direct result of the recommendations made by the Sanitary Commission of Massachusetts was the establishment of a State Board of Health in 1869.

Dr. Dio Lewis founded a normal school of physical education in Boston in 1860.

By 1860 schools in general were introducing courses in Physiology into their curriculum. Gymnastics and physical exercises were also openly discussed as necessary for the development of the individual child. Throughout the Commonwealth concern for the physical welfare of the children became a major concern of administrators and the enlightened citizenry.

As we move forward into a new era of educational and scientific progress, we find our country endeavoring to
restore the relationship between the Union and States of the former Confederacy. The Civil War is over, and its major objective, the preservation of the Union, has been achieved. On the national horizon we perceive conditions of controversy, political scheming, governmental reorganization and economic rehabilitation.

Notwithstanding these grave difficulties pressing for solution, school health education is to emerge as a driving force to be harnessed in the service of the modern public school child of the Commonwealth of Massachusetts.
PART III

THE GREAT AWAKENING--A PERIOD OF SCIENTIFIC PROGRESS IN HEALTH EDUCATION IN THE SCHOOLS OF MASSACHUSETTS

1. Historical Significance

2. Scientific Progress

3. Massachusetts School Reports--1865-1875
   - Progress in Physical Education
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4. Massachusetts School Reports--1876-1900
   - Health Laws and School Epidemics
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   - Physical Exercises
   - Health Education and Physiology
   - Other Health Measures:
     - School Furniture
     - Drinking Cups
     - Blackboards, Walls, Ceilings
     - School Lunches
     - Medical Inspection

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1. Historical Significance

While reformers of all kinds were attacking innumerable aspects of American civilization and offering their favorite remedies to promote the happiness of mankind, the United States was facing a period of general rehabilitation and reconstruction following its War between the States (1861-1865).

Of the many important new developments agitated during the pre-war period, the one outstanding principle emerging to capture most completely the American mind was universal public education. Many years were to elapse before the ideal was realized, but by 1865 the principle of a free, non-sectarian, tax-supported public-school system covering the various stages of education from elementary to collegiate had been generally accepted.

"Despite variations among states, the nineteenth century was the formative period in which an American conception of education began to appear in fairly clear outline. ... The United States launched a democratic system designed to provide equality of opportunity for everyone to go as far upward as his talents and abilities would take him. Furthermore, this opportunity
should be available at public expense under state auspices and should begin at the lowest levels and extend through the university."1/

To be sure, the Civil War, so far as the north was concerned, had stimulated certain types of business into abnormal activity and the advent of peace was bound to make adjustments necessary. In the process of rehabilitation, industrialists and financiers looked to the South where a rich market for supplies and manufactured goods was being created.

On the other hand, in the South, the basic factors necessary for making a living were there, but economic life had come almost to a standstill. The war had brought little but disaster to the region.

The surrender of General Lee to General Grant at Appomatox in April, 1865, marked the close of the military conflict; the elections of 1866 and 1868 sealed the supremacy of the industrial North over the agricultural South; and the period after the close of the Civil War signalized an era for the industrialists, the financiers, the railroad builders, all those whose expansion had been held in check during the period of Southern slave-dominated power.

"The war for Southern independence had solved two important questions: Negro chattel slavery was ended, and the ultimate supremacy of the federal government was established. But, like most wars, it created more

problems than it solved. Its greatest effect, perhaps, was the stimulation that it gave to economic processes in the North, and with this came the rising power of capitalism. Politically, the conflict between the states marked the shift in power from the slaveholding oligarchy of the South to the rising plutocracy of the North.

Hardly less significant for the moment was the tremendous economic destruction suffered by the South.1/

2. Scientific Progress

The latter half of the nineteenth century witnessed also some signal achievements in the realm of the sciences. The whole world seemed to be alive with industrial and scientific discoveries—the promulgation of the germ theory of disease by Pasteur (1858); the application of antiseptics in surgery by Lister (1864); the production of X-ray apparatus so useful in surgery, medicine and dentistry by Roentgen (1895). Complementing these victories in the realm of healthful, scientific living came the epoch-making discovery of Professor and Madame Curie (1898) in extracting radium from Austrian pitchblende, thereby opening a new era in physics. No previous age had given to mankind so many discoveries of utility in its war on disease and pain.

"The great steps taken in the field of the sciences during the Enlightenment were increased during the nineteenth century. . . . The study of the cellular structure of the animal and human organism, of heredity (Mendel, Weismann, and DeVries), pathology, embryology, and physiology kept pace, to say nothing of bacteriology

(Pasteur), vaccines (Jenner), anesthesia, the germ theory of disease (Koch), and antiseptic surgery (Lister) in the field of medicine.

Building upon the organized knowledge thus achieved in various scientific fields and applying the scientific method to practical affairs, the progress of invention and technology was more rapid and extensive than ever before in human history.¹

The advance of technology was furthered by numerous inventions. Cataloguing the revolutionary effects of such technological developments one finds: Alexander G. Bell in the sphere of telephonic communication (1875); Edison's phonograph and incandescent lamp (1878); Marconi's wireless telegraph (1896); the transatlantic cable (1866); the transcontinental railway (1869); the first internal combustion motor (1885). Such were a few of the countless revolutionary changes which science ushered in at a period which came to be known in history as the scientific era.

The creation of the sciences, medical and technological, were revolutionizing concepts in human relations. This new spirit made a new education inevitable in America. Under the influence of these progressive discoveries, educational leaders were at work seeking to make available in education the philosophy of change that dominated the period. In the more immediate field of health education, the essence of their doctrine was the motivation of a scientific and experimental attitude in general matters of health. Change

was inevitable, but a change scientifically controlled in procedure was being formulated. A mode of education was to be created that would respect every human value, physical, mental and moral.

"Have changes at all comparable with these taken place in education? Has the progress of invention, the advance of science, the onrushing development of social, economic, and political life been accompanied by a corresponding development in the schools of the nation? Progress in education follows progress in other activities of life. It is apt to follow somewhat afar off, for the school is a conserving rather than a renewing force. .....The school...sits somewhat apart from the current of change. Yet there is a relation between educational advance and industrial and civic progress...."¹/²

Influential in the development of the natural sciences in education were the teachings of Herbert Spencer (1820-1903), English philosopher of the nineteenth century.

Spencer advanced the theory that a knowledge of the sciences was most useful in all life activities and therefore of most worth. In accord with Pestalozzi, he argued "that education must conform to the natural processes of evolution." He displayed originality in his essay on Physical Education in which he held that the first requisite to success in life is "to be a good animal." He insisted upon the preservation of health as a duty, and discussed


effectively the proper food, clothing, exercise and play for the boy and girl.

"Science was cultivated assiduously by the America of the period. . . . For those who craved a complete system, founded on the evolutionary doctrine, the teachings of Herbert Spencer were ready at hand. Spencer, in fact, was a far greater prophet in America than in his own land and his synthetic philosophy (which attempted to prove that the social sciences as well as the natural all conformed to the same laws of progress) was sympathetically received."1/

Spencer's Essays offer suggestions which bear the marks of Rousseau's method of discovery. However, unlike Rousseau, Spencer does not claim freedom as the supreme good of life. The ultimate aim is preparation for complete living and, therefore, the greatest good of the greatest number, with freedom to exercise one's faculties, is its necessary condition. Because Spencer believed in the efficacy of science in preparing for the main functions of human living, he advocated that a greater place be given it in education.

"Hence it is becoming of especial importance that the training of children should be so carried on, as not only to fit them mentally for the struggle before them, but also to make them physically fit to bear its excessive wear and tear.

To conform the regimen of the nursery and the school to the established truths of modern science--this is the desideratum."2/

2/Herbert Spencer, op. cit., p. 223.
These, in essence, were the inroads in thoughts and ideas pervading educational progress and adjustments to a scientific approach in health education at the turn of the century. Spencer was a leading force in molding these thoughts and activities.
3. Massachusetts School Reports--1865-1875

Naturally, the immediate interest of this narrative is to present the advances made in the particular field of health in the public schools of Massachusetts. This leads to the observation of the progressive forces that operated toward the fulfillment of an effective program based on matured embodiment of educational theories and practices.

Massachusetts School Reports on health practices are replete with advice, admonitions, and actual procedures in effect in the schools throughout this very active and turbulent period of history.

A greater service will be rendered the reader by direct quotations from these Reports than by mere generalizations on the part of the writer. In passing on to a consideration of these documents one will discover as the dominant note the slow but articulate change evolving in school health measures. Essentially, motivation for a scientific and experimental attitude in school health endeavors pervades the thoughts and actions reported. Each town, each city, each county had a part in fostering the development of school health education and each should be given due credit and full recognition for whatever success it attained through the years as documented in annual reports to the Massachusetts State Board of Education.

Problems and views presented by school boards upon the
principal subject of health vary considerably according to local interests at the time reports were submitted for approval and assimilation.

**Progress in Physical Education**

**BOSTON, Thirteenth Semi-Annual Report of the Superintendent of Public Schools, 1866, p. 43:**

"We have made evident progress in this department within five or six years. Still much remains to be done."

1872, p. 237:

"Still I feel bound to say and to say with emphasis, that there is still great room for improvement in physical culture."

1874, p. 267:

"There has been a perceptible improvement in the physique of our pupils. We see among them fewer narrow chests, crooked spines, and pale faces, than formerly."

**BRIGHTON, Thirteenth Annual Report of the School Committee, 1868, p. 14:**

"A prevalent idea exists that in the country there is no need of physical exercises, as every child can gain sufficient air and play-room for all needed exercise. ....But look at the round-shouldered, stooping, awkward gait of some men, and you will find that most of them have had the country to exercise in."

**BROOKLINE, Report of the Board of School Committee, 1873, p. 48:**

"I hope your Board will appoint a committee to report on the advisability of introducing systematic physical training into our schools."

**CHARLESTOWN, Semi-Annual Report of the Superintendent of Public Schools, 1866, pp. 22-23:**

"The proportion of people possessing really
vigorous health is exceedingly small; and the time seems to have fully come when those who are charged with the responsibility of training the rising generation should give to physical culture the attention it so fully claims."

**FALL RIVER**, Annual Report of the School Committee, 1870-81, p. 6:

"Gymnastic exercises do not receive the attention and accomplish the results which they ought. ....A teacher who does his duty, will care as much for the physical welfare of his pupils as for their mental culture."

**HOLYOKE**, Seventeenth Annual Report of the School Committee, 1867, p. 1:

"No brilliancy of scholarship will atone for the lack of vigorous health. Let no one think that the time spent in physical training involves a corresponding loss in the mental progress of the pupil."

**HUBBARDSTON**, Annual Report of the School Committee, 1872, p. 20:

"The contraction of the chest, round shoulders and other bad physical habits, detrimental to the health of children are found often in school, where there is long confinement to seats and desks. ....We therefore commend and have encouraged physical exercises, now so common in many schools."

**SPRINGFIELD**, Report of the School Committee, 1866, p. 12:

"In all our schools, gymnastic exercises mostly in their simple forms, are habitually practiced....promotive of the health and vigor of the pupils."

**WATERTOWN**, The Thirty-Six Annual Report of the School Committee, 1873-74, p. 10:

"Healthy exercise and recreation are equally necessary for both mind and body. ....this is a
business age in which we live; and our system of education has become warped towards the practical and the material."

YARMOUTH, Report of the School Committee, 1873-74, p. 11:

"Physical exercise at frequent intervals in school hours is a happy improvement upon the rigid monotony of other days. ...it improves the general tone of discipline and relieves the teacher quite as much as the pupil."

Progress In School Health

ABINGTON, Annual Report of the School Committee, 1871-72, p. 5:

"School rooms should be well lighted. Light is as essential to the highest development of children as it is to that of plants; and we object decidedly to the general use of blinds, shutters, and curtains."

AMHERST, Annual Report of the School Committee, 1871-72, pp. 14-16:

"The first thing in the order of nature to be aimed at by our schools is health. ...a sound body as the condition and prerequisite to a sound mind, is a cardinal principle to be kept constantly in view in the education of children."

ASHBURNHAM, Annual Report of the School Committee, 1872-73, p. 4:

"...In our schools the laws of health, the evils that flow from their violation, the duty of seeking the greatest physical vigor and symmetry, should be thoroughly taught."

ASHLAND, Report of the School Committee, 1872, pp. 16-17:

"The health of the scholars must not be overlooked. ...it ought not to be beneath the attention of the teacher...to give his pupils sound advice concerning such commonplace matters as dress, diet, sleep, cleanliness, etc."
ATHOL, Report of the School Committee, 1874, p. 8:

"New Englanders in their efforts to secure wealth, have become somewhat noted for their neglect of their forms. In our rugged climate, disease surely overtakes round shoulders and hollow chests. ... The school is the place to correct these bad habits."

BELMONT, Report of the School Committee, 1866-67, p. 10:

"We hear that if the truth were known, that many of the ill-effects often alleged as arising from too close application to study, would be found to result directly from causes entirely foreign to school-labors. Want of out-door exercise—eating at irregular hours—up late at night—oft exposure to the night air—excessive love for the light literature of the day, would each come in for a large share."

BOSTON, Report of the School Committee, 1866-67, p. 91:

"... principles of physiology should be carefully studied and, as far as recognized, obeyed. The duty of fidelity to all the known laws of health has been inculcated by this Board, and, to a very large extent, has been cheerfully responded to by teachers."

1869, p. 92:

"The health of the scholars as indicated by the attendance, is as good as in former years. Both teachers and pupils have been injuriously affected by the bad light, the escape of gas from the furnace, the impurity of air in the over-crowded rooms, and the drafts from partially opened windows."

CAMBRIDGE, Report of the School Committee, 1871, p. 29:

"The schools are frequently interrupted in consequence of the schoolrooms not being properly warmed, and, in some of these cases at least, the fault is not so much with the heating apparatus, as with the irresponsible person having charge of it."

CONCORD, Report of the School Committee, 1875, p. 17:

"Cleanliness—This is a most important consideration on educational as well as hygienic grounds. ... If one will undertake the civilization and culture of a little barbarian, one first tries to impress on him strongly the
necessity of being clean in body, in clothes, and as far as he is responsible for them, in surroundings."

DOVER, Report of the School Committee, 1867-8, p. 10:

"Let him listen in winter to the continual and almost universal coughing, and remember that twenty per cent of the children are absent, and he will be convinced that we consult neither the comfort, nor health, nor intellectual progress of the children."

EASTON, Report of the School Committee, 1874-75, p. 6:

"Scarcely any subject, connected with school life, is more important or more disregarded than the connection of our systems of school training with the physical condition of the scholars."

FALL RIVER, Second Annual Report of the Superintendent of Schools, 1867-68, pp. 37-38:

"As a sound mind can only exist in a sound body, good health is one of the essential requisites for the teacher, and it should be his special care that by regular and proper exercise his physical powers are kept unimpaired."

HOLYOKE, Report of the School Committee, 1875, pp. 25-26:

"The health of our children is a matter of the greatest importance. However perfect our system of education may be, however excellent the instruction given, if pupils go forth from our schools with impaired constitutions to a life of physical suffering, there is a fearful responsibility resting upon those who have failed to make suitable provision for the health of the children as well as for their mental culture."

MANCHESTER, Report of the School Committee, 1868, p. 14:

"The physical well-being of children should be regarded and cared for, as much even as their mental and moral improvement. Teachers should use all proper means to promote the health and vigor, and to guard against the ill health of their pupils."

NEW BEDFORD, Report of the School Committee, 1867, p. 4:

"A sound body is necessary to a sound mind."
Therefore let the utmost attention be given to secure a pure atmosphere in the schoolroom; let the postures of the scholars be so regulated as to avoid unnecessary fatigue; and the intellectual exercises be relieved by physical, to strengthen and cultivate muscle as well as mind."

NEWBURYPORT, Report of the School Committee, 1872, p. 18:

"Without detracting from the interest felt in the intellectual training of the children and youth of the city, the especial attention of teachers and parents should be directed to the importance to be attached to the health of those connected with our public schools. ...It is not only the mind of his child which the parent commits to the care of the teacher, but the best interests of both mind and body."

NEWTON, Report of the School Committee, 1873, p. 53:

"An enlightened public sentiment demands that all connected with our schools should understand the laws of health and the circumstances which affect it. ...The light, temperature, ventilation, height of seats and desks, position of scholars, length of session, of recess, of recitation—all these things and many others need careful consideration."

NORTH ANDOVER, Report of the School Committee, 1875, pp. 10-11:

"The physical nature of the child should not be overlooked. ...A few words from the teacher occasionally on healthful habits, and cleanliness, would be invaluable.

"It is said that we Americans are the most prodigal of health of any people, and the number of students who break down in health admonish us that we should commence early, and give proper prominence to Hygiene in the education of our children."

NORTHAMPTON, Report of the School Committee, 1867-68, p. 26:

"A practical difficulty is experienced from the manner in which the school-room is lighted, there being no windows in the rear of the room, nor on the sides for more than half its length."
NORTH BRIDGEWATER, Report of the School Committee, 1873, p. 11:

"The health of our children is of the first importance and it is useless to attempt to cultivate the mind while we suffer the body to lose its health and vigor."

PROVINCETOWN, Report of the School Committee, 1874, p. 16:

"We protest as a matter of health. ....The necessity of good health and good education is greater to-day than ever before. ....Under the influence of many of our school conveniences our children cannot be well educated, nor thoroughly developed."

SAUGUS, Report of the School Committee, 1873, p. 5:

"...There may be, and perhaps too often are, conditions of school life not conducive to perfect health; such as over-heated, ill-ventilated, closely-packed, and dusty school-rooms, imperfect respiratory movements caused by continual sitting, to which may be added imperfect light, small print, ill-contrived, and badly arranged school furniture."

SOMERVILLE, Report of the School Committee, 1869-70, pp. 22-23:

"In pleasant weather pupils should spend their recess in the open air. When the weather is cold, care should be taken, especially in the case of small children, that they are properly protected by outer garments before they leave the dressing-room.

In their absence the blinds should be thrown back to admit the sun, and the windows opened for a fresh supply of pure air."

SOUTHBRIDGE, Report of the School Committee, 1868-69, p. 7:

"Not for many years, probably, has there been so much sickness among the scholars of our schools as during the past winter. In several families the scarlet fever has prevailed. Severe colds have been common, withdrawing many from the schools."
SPRINGFIELD, Report of the School Committee, 1874, pp. 26-28:

"The relation of school work to the health and physical development of pupils, is now receiving no small degree of attention from boards of health, the medical profession, and others specially interested in education and the welfare of the human race.

...From the average attendance upon the schools, it will be evident that the amount of sickness among the pupils cannot be said to have been very large."

WALPOLE, Report of the School Committee, 1872-73, p. 16:

"The Committee would respectfully suggest to the consideration of the new Board, the fitting up the basements of all the school houses, in an inexpensive manner, for playrooms during recesses in stormy and cold weather. In this way, much ill health may be prevented, and much abuse of the school-rooms may be avoided.

Progress in School Architecture, Ventilation, Heating, and Sanitation

BEVERLY, Report of the School Committee, 1867-68, p. 10:

"It is not saying too much to say that there is not a schoolhouse in this town which is what it should be; and...that some of them are...what they should not be."

BOXFORD, Report of the School Committee, 1871, p. 4:

"It is a matter for congratulation that all our schoolhouses are now comfortable and commodious."

BRAINTREE, Report of the School Committee, 1866-67, p. 6:

"Some of our school-rooms are commodious and in fair condition. Others are so dilapidated and uncleanly, that they would answer better for wild animals than for well-dressed and well-mannered children."

ESSEX, Report of the School Committee, 1867-68, pp. 3-4:

"The Falls district, by its wise liberality,... have erected a spacious and commodious structure on a site judiciously selected on account of its central location, its easy access and pleasant surroundings. It
is furnished with comfortable seats and desks of a new and improved design; ... Its play grounds are ample and fitly enclosed. Its apartments are well lighted, and ventilated. The building is so suited in itself, and surroundings to the wants and welfare of the scholars as to reflect great credit upon the district, and upon the committee who designed the building, and supervised the work in all its manifold details.

May the other districts, which are not abreast with the spirit and improvements of the age, soon fall into line."

FALL RIVER, Report of the Superintendent to the School Committee, 1867, p. 17:

"In my first Report special attention was called to importance of proper ventilation in all our school-houses. As yet, nothing has been done to remedy the evil of foul air which inevitably accumulates in our unventilated schoolrooms. ... Often, diseases that are attributed to hard study, have their origin in the contaminated air of unventilated school-rooms.

Fresh air contributes to health, to happiness, and to proficiency in study."

1868-69, p. 8:

"Some of our school-buildings are deficient in all that makes a school-room convenient, comfortable and attractive."

GLOUCESTER, Report of the School Committee, 1875, pp. 21-23:

"While it is true that our school buildings were never so well warmed as they now are, yet no improve-ments in their ventilation can be here recorded.

... An inspection of what has been done in Providence, Newton, Boston, Salem, and Beverly would show that our school houses can be ventilated without incurring any great expense."

HANCOCK, School Report, 1867-8, p. 4:

"It seems to us wholly unnecessary that our children should be crowded into such unsightly, ill-constructed,
and uncomfortable buildings as render good order and success in schools impracticable, sacrifice the physical comfort of the scholars, and puts their health in jeopardy. . . . one fourth part of all cases of consumption, to say nothing of other diseases in New England, have their origin in the school room."

HATFIELD, Annual Report of the School Committee, 1866-7, p. 3:

"Youth is the time to lay in stores of health for the heavy duties of active life, and for old age. But what chance has a child for this, who is crowded into a little room, and made, for six long hours a day, to inhale the deadliest poisons, and to sit in the most constrained positions?"

LOWELL, Report of the School Committee, 1869, p. 5:

". . . But whatever merits a school-house may have, it is radically bad if it is lacking in these three things:

1st. Spacious and dry detached yards, provided with wholesome drinking water, . . . .

2nd. Such an arrangement of its rooms that every one of those steadily occupied, shall receive daily some portion of sunshine. The effect of sunlight on health is seldom appreciated.

3rd. A reliable arrangement for the regular introduction of fresh air, and the equally systematic withdrawal of foul air."

LYNN, Report of the School Committee, 1867, p. 21:

"There is one evil arising from the present state of things, which we have never seen alluded to, but which appears to us very serious. Parents who are able to send their children to private schools, often do so rather than send them to these miserable, over-crowded school houses.

Thus the very existence of our common school system, the pride of Massachusetts, . . . is actually endangered.

This danger can be effectually averted only by rearing school buildings so substantial and attractive,
and employing teachers of such pre-eminent merit, as shall make our public schools superior, in every respect, to all others. This can be done, and ought to be done."

MALDEN, Report of the School Committee, 1870, p. 29:

"The Primary School taught by Mrs. A. C. Oliver and her Assistant, Miss S. J. Cook, is indeed in a most deplorable condition, being filled to overflowing by numbers ranging from 100 to 140 children."

NEW BELFORD, Superintendent's Annual Report, 1874, p. 78:

"...Our wretched ventilation subtracts a large per cent. every day from the mental energy of our scholars, and correspondingly retards their advancement, while at the same time undermining their health."

PROVINCETOWN, Report of the School Committee, 1872, p. 5:

"...All our school houses are deficient in ventilation, most of them in heating and lighting, and most in school furniture and flooring; thus weakening rather than strengthening the constitution of the child. Who can say how many of our youngs have been carried to premature graves by sickness generated in the school room; and how many older ones are now suffering from diseases originating in the same place."

TYNGSBOROUGH, Report of the School Committee, 1867, p. 15:

"...To obtain a thorough public education there must be good school houses and good teachers."

Progress in the Study of Physiology

BOSTON, Annual Report of the School Committee, 1867, p. 62:

"Anatomy and physiology, if not altogether abandoned as studies, are confined to a very limited number of the pupils, and yet there is no knowledge of such incalculable advantage to all than correct impressions with regard to them."
FALL RIVER, Report of the School Committee, 1870-71, pp. 55-57:
"Questions used in the examination of candidates for admission to the High School, May, 1870:

Physiology:
1. Name the bones of the upper extremities.
2. Name the teeth and describe their structure.
3. Name and describe the parts of the eye.
4. Describe the circulatory organs."

FITCHEBURG, Report of the School Committee, 1868, p. 31:
"Course of Classical Study--First Year--Winter and Spring Terms: Physiology.

1875, p. 19:
No provision is made for the study of Physiology, except in one of the courses in the High School.

...For the benefit of those pupils who do not enter the High School, this branch might be studied the last year in the Grammar School."

LAWRENCE, Annual Report of the School Committee, 1874, pp. 27-28:
"The principal of the High School says: 'The study of Physiology I think should have a place in the course. I hope this year to introduce it as one of the studies of the so-called six-months class.'"

MENDON, Report of the Superintendent of Schools, 1874, pp. 13-14:
"Any system of education that does not make the study of the human constitution prominent in its plan of operations needs to be speedily reconstructed.

The re-enactment of a law, similar to that of 1850, is most imperatively called for, so that when the children leave the common school they shall be well instructed in the principles whereon depend a healthy, vigorous and well ordered life."

NAHANT, Annual Report of the School Committee, 1868, p. 4:
"That the study of Physiology should receive more
attention in our common schools, at least, has long been our opinion, since many scholars from different circumstances are unable to prosecute their studies further than our Grammar and High schools."

**NEW BEDFORD**, Annual Report of the School Committee, 1867, pp. 33-34:

"The chief parts of the body have been already learned. ....Special attention will now be given to the organs of respiration, circulation and digestion; and the teacher will treat specifically of the structure and offices of the lungs; ....The teacher will treat of the structure and offices of the heart together with the arterial and venous systems; ....and of the structure and offices of the stomach...."

1869, pp. 15-16:

"....The committee ordered an anatomical clastic preparation of the human form from the atelier of Dr. Anzoux in Paris, for the use of all our teachers in giving demonstrations in anatomy and instruction in physiology and hygiene."

**PRINCETON**, Report of the School Committee, 1873, p. 5:

"Other useful and at present neglected branches of study should be taught, among which may be mentioned--Reading, Spelling, and Physiology."

**PROVINCETOWN**, Report of the School Committee, 1875, pp. 7-8:

"Teachers should be required to obtain some knowledge of the principles of physiology and hygiene. They should study for the physical good--the health and happiness of their pupils, for by so doing they will increase the mental strength and sharpen the perceptive faculties to grasp more readily whatever is allotted them."

**REVERE**, Report of the School Committee, 1873, p. 7:

"Physiology which for some reason has dropt out of the schools as a study, should be resumed, and some suitable textbook on this subject introduced. ....Let a reform be entered upon at once."
WAKEFIELD, Report of the School Committee, 1869-70,
p. 13:

"This important science is in our programme of studies, and text-books were provided for the teachers; but with few exceptions, the subject has been entirely neglected."

1870-71, p. 9:

"Physiology, notwithstanding its vital importance in its relation to the laws as preservation of health ... has not received the attention we desired and expected."

1871-72, p. 14:

"Approved textbooks on Physiology were supplied to all the teachers, in the early part of the year, with the request that oral instruction on the most important matters therein contained, should frequently and regularly be given to the pupils. ....To our regret, by some teachers the matter has been much neglected. The laws of health and life, and the best means of preserving them, should be taught, to a reasonable extent, to every scholar."

WESTMINSTER, Annual Report of the School Committee, 1869-70, p. 8:

"We would recommend that Physiology be made a regular common school study. Confined as it is now to the High School, not one scholar in twenty ever knows anything about it."

Progress in School Attendance and Age Requirement

COHASSET, Annual Report of the School Committee, 1867-68, p. 3:

"The adopting of five years of age, instead of four, as the age at which children shall be admitted to the Primary Schools, has relieved these schools of a class of children, too young to be confined in a school room, or to receive much benefit from the instructions there given,...."
GRANBY, Report of the School Committee, 1866-67, p. 5:

"Children living farthest from the center school have managed to attend it regularly; gaining health and flesh by their daily walk; while children living nearer, with equal facilities for traveling, failed to attend the grammar school."

NEWTON, Report of the School Committee, 1875, p. 13:

"There can be no doubt that our young people are entering too immaturely for their health, success, and moral stability, into mercantile life; and the frequent and sad failure, both in health and character are significant evidences of this error."

PERU, Report of the School Committee, 1872-73, p. 2:

"Upon examining the registers we were struck with the waste of time and money from the irregular attendance of scholars."

PROVINCETOWN, Report of the School Committee, 1874, p. 13:

"Children are sent to school too young. They are not mature enough at five. ...Pupils so young cannot attend regularly. ...The attendance is, consequently, poorer in the lower grades than in the higher."

WASHINGTON, Report of the School Committee, 1868-69, p. 1:

"We earnestly recommend that no scholar under five be sent to school. We believe it to be injurious to the physical growth, and not less detrimental to the intellectual growth of the pupil."

The Abolition of the District System

In analyzing these Reports on school health for the years 1865-1875, it is wise to dwell a little on the forces at work acting as barriers to appreciable progress.

Massachusetts was, at this time, experiencing radical
changes in the character and operation of its public schools. The District System was giving way to a more progressive and enlightened municipal system. Cities and towns were taking advantage of a legislative amendment to the original law forming such districts, and were incorporating their own supervision and control.

"Amendment. Chap. 54, 1867.

Sect. 1. The provision of section one of chapter thirty-nine of the General Statutes, authorizing towns to divide into school districts, shall not be applicable to any town which has abolished or shall hereafter abolish the school districts therein by virtue of the provisions of the third and fourth sections of said chapter."1/

Consequently, the abolition of the District System placed the entire management and responsibility of the schools and buildings in the hands of the town, instead of dividing this management and responsibility among the town and the several districts. The advantages accruing from such a change were far-reaching in the unification and standardization of instruction.

"Limitations and Defects of the District System. In general this system produced the most general indifference to education on the part of all concerned; it prevented the establishment of any general standards; it fostered a pernicious and mean spirit; and it proved the greatest obstacle to technical educational advance."2/

The following towns expressed pleasure and endorsed the


municipal system in their *School Reports* as follows:

**Blanford**, Annual Report of the School Committee, 1867-8, p. 4:

"One benefit which we think likely to accrue to the town, in consequence of abolishing the District System is the much needed improvement of our school-houses."

**Douglas**, Annual Report of the School Committee, 1867-68, pp. 10-23:

"There is great inequality and injustice in the District System. A thriving village will be sure to get the advantage. There wealth concentrates.

... The town a year ago, made an essential change in the management of its schools by the abolition of the school districts, and the introduction of the municipal system.

Business will draw together business men who pay large taxes. Suppose one district embraced this village. It could build an elegant house and scarcely feel it; while the same tax would be an intolerable burden for a district territorially larger but of fewer inhabitants. What we wish is for the wealthier districts to make common cause and keep their neighbors to as good a house and as good a school as they have."

**East Bridgewater**, Report of the School Committee, 1868, pp. 22-23:

"The town a year ago, made an essential change in the management of its schools by the abolition of the school districts, and the introduction of the municipal system;..."

... The new system we believe is pre-eminently calculated to secure the best schools, and to extend their benefits uniformly and equally to all parts of the town."

**Greenfield**, Report of the School Committee, 1869, p. 3:

"After many years' discussion, the State has performed by statute what many towns had already done
voluntarily. The District system has been abolished by the act of the Legislature, and the duties which before have been performed by the Prudential Committees of the several districts, now devolve upon the Superintendent Committee of the town."

ROCHESTER, Report of the School Committee, 1867-68, pp. 2-12:

"Now we find two systems in operation in the state. ....They are the municipal system and the district system. ....by far the larger proportion of the intelligence of the state, have adopted this municipal system."

Pre-occupied, as it were, with financial and administrative problems, school health programs and reforms made little headway throughout the schools of the State in the decade just reviewed.

However, in the ensuing period an awakening to the disparity between the demands of the hour and the results of public instruction is to be felt and decisive measures are to be invoked to remedy defects and make prominent conditions for the securing and retaining of general health standards in the schools of Massachusetts.

The art of education was lagging behind industrial progress. There was a certain conservatism clinging to old ideas and customs without regard to their value, as compared with the new regardless of changed circumstances.

4. Massachusetts School Reports--1876-1900

Never, since the days of Horace Mann, has the public mind been so deeply interested in the health and welfare of the school children of Massachusetts as at this period.
Heads of universities, medical men, state officials, educators, wise and thoughtful men in all ranks are discussing and investigating everything that pertains to the subject of school health. The architecture, ventilation and sanitary conditions of school buildings, methods of instruction, pupil health, physical exercises, proper lighting and medical inspection are frequent subjects of criticism, inquiry or discussion.

"During the past two years, several papers of great merit, upon school hygiene, have been published with which teachers ought to be familiar. They are not theories merely, but contain facts, and deductions from carefully conducted observations and experiments, which entitle them to great weight. They recognize fully the evils which our social life entails upon children, ...."1/ 

"....During the past two years, several papers of great merit, upon school hygiene, have been published, with which teachers ought to be familiar."2/

Criticism is the order of the day, not only by those who have had long experience in the art of teaching, but frequently by those who have spent little or no part of their lives in giving instruction.

Mention should be made of the work of Dr. David Francis Lincoln (1841-1916), Secretary of the Health Department of the American Social Science Association. By his lectures and writings, Dr. Lincoln influenced many of the hygienic reforms frequently referred to in School Reports of 1876-1878.

2/Springfield, City Reports, 1876-1878, p. 58.
"...Dr. D. F. Lincoln has drawn up an excellent set of rules for the care of the eyes, which I quote here, and to which I hope every one of our teachers will give earnest heed."1/

"The following paper was prepared and contributed to this report, at the request of the Secretary of the Board of Education, by D. F. Lincoln, M. D., of Boston: ...."2/


Lincoln's Hygiene of Public Schools is found in the Forty-Second Annual Report of the Massachusetts State Board of Education. His Hygienic Physiology was published in 1893 as a school text-book. An article on "Sanitation of School-houses" appears in the Ninth Annual Report of the State Board of Health, 1878.

Because of Lincoln's contributions to the improvement of school health in its various aspects, mention of his activities warrant inclusion in this narrative. He firmly believed that the science of hygiene, though far in advance of its application, could never be effectually applied by the labors of a few skilled experts. The impetus needed was appreciation and practice by the people in addition to the

1/Boston, Report of the Superintendent of Public Schools, 1876, p. 104.


imparting of such knowledge in the public schools.

Health Laws and School Epidemics

A further study of School Reports brings to light the many Acts of the State Legislature enacted to safeguard the health of school children. One of the laws mentioned in Reports at this period was the Act of 1855 regarding vaccination.


Sect. 2. The school committee of the several towns and cities shall not allow any child to be admitted to, or connected with the public schools, who has not been duly vaccinated.

Approved May 19, 1855."

As small pox was raging in some parts of the country and had made its appearance in neighboring communities of the State, school committees were desirous to call the attention of parents to the fact that there existed upon the pages of the Public Statutes of Massachusetts a number of sections concerning the schools as related to public health, one of which pertained to vaccination.

BELCHERTOWN, Annual Report of the School Committee, 1881-82, p. 7:

"Vaccination: We call attention to the requirements of the statutes of the State upon this subject.... We are not aware that these laws have ever been enforced to any extent in this town, but if that

1/Laws and Resolves of Massachusetts, 1854-55, p. 812.
loathsome contagion, against which vaccination is the only known safeguard, continues to prevail in the country, circumstances may make their enforcement imperative. We therefore recommend that the matter be attended to during the spring vacation."

EVERETT, Twelfth Annual Report of the School Committee, 1881, p. 10:

"The law also makes vaccination compulsory, .... In view of the prevalence of this loathsome disease in distant localities, and the fact that well-informed physicians predict an invasion of our own homes with an epidemic of the dreaded scourge, we have instituted a medical examination of every individual attending school to the end that we might know how faithfully the law had been observed in the past."

FRAMINGHAM, Report of the Board of School Committee, 1881-82, p. 21:

"Vaccination. In February, the School Committee took action in regard to the matter of vaccination, which for some years had apparently been neglected."

LYNN, Annual Report of the School Committee, 1876-77, p. 38:

"Ordered, That no pupil shall be allowed to attend school from any house in which Small-Pox, Varioloid, Scarlet Fever or Diphtheria prevails; and no pupil having been affected with either of these diseases shall be permitted to return until convalescence is complete, and attested by a regular practicing physician."

NORFOLK, Report of the School Committee, 1881-82, p. 11:

"Cases of small-pox at no very great distance, determined the Committee to enforce the law regarding vaccination."

RAYNHAM, Report of the School Committee, 1882, p. 23:

"We would call the attention of the town to the prevalence of 'Small Pox' in the country, and ask parents to see to it at once, that their children are duly vaccinated."
SALEM, Report of the School Committee, 1872, p. 58:

"...No child shall be admitted into, or allowed to remain in any school, without a certificate from a physician, or other satisfactory evidence, that such child has been duly vaccinated."

SALISBURY, Report of the School Committee, 1882, p. 7:

"Our schools have not been seriously interrupted on account of ill health the present year. The prevalence of smallpox in some parts of the state has caused some anxiety, and the committee gave public notice requesting all scholars to be immediately vaccinated, but many parents have taken no notice of the request...."

SOMERVILLE, Report of the School Committee, 1883, p. 32:

"By the Rules of the School Board, no child can be admitted to our public schools without satisfactory evidence that he has been secured against smallpox; and no pupil with any contagious or infectious disease or directly exposed to the same, shall be allowed to attend the public schools."

SPRINGFIELD, Report of the School Committee, 1881, pp. 18-19:

"Vaccination. During the war between the Northern and Southern States, Dr. Martin (who had previously acquired a reputation for special knowledge of this subject) was specially employed by the Government of the North to proceed to the various localities in which severe outbreaks of smallpox were from time to time taking place, and he most commonly found that there had either been no previous vaccination at all, or vaccination with degenerate virus. Armed with a supply of good lymph, and with military authority,....he always found himself able to control these outbreaks and to prevent their recurrence."

The Boston Daily Advertiser of January 13, 1873, carried a "Warning" in an attempt to check the spread of this contagious disease, placing full responsibility upon the board of health of each locality.
"Small Pox--A Warning

Is the board of aldermen aware of the fearful responsibility resting upon it? They are still the board of health and with them rests all the responsibility. ....Months have passed since this dreadful scourge assumed proportions altogether beyond the control of the city physician, with the means and appliances at his command. ....If the board of health do their duty, this disease can be eradicated."

The Act of 1885 to prevent the spread of contagious diseases in the schools achieved widespread recognition in School Reports.

"Chap. 198. An Act to Prevent the Spread of Contagious Diseases Through the Public Schools.

Chapter sixty-four of the acts of the year eighteen hundred and eighty-four is hereby amended so that it shall read as follows:--The school committees shall not allow any pupil to attend the public schools while any member of the household to which such pupil belongs is sick of small-pox, diphtheria, or scarlet fever, or during a period of two weeks after the death, recovery or removal of such sick person; and any pupil coming from such a household shall be required to present, to the teacher of the school the pupil desires to attend, a certificate, from the attending physician or board of health, of the facts necessary to entitle him to admission in accordance with the above regulation.

Approved April 29, 1885."

The following towns reported "vigilant care has been exercised to guard against the spread of contagious diseases in the schools:"


2/Laws and Resolves of Massachusetts, 1884-85, p. 643.
An outbreak of diphtheria during the 1890's set in motion prompt action by the State Board of Health to prevent a serious epidemic. Schools were closed and extraordinary vigilance to check the disease was instituted.

It should be mentioned here that the Massachusetts State Board of Health, after a period of somewhat erratic accomplishments (1879-1885), came into its own again as a technical and advisory body to local boards in all matters of health through an Act of the Legislature in 1886.

"Chap. 101. An Act to Establish a State Board of Health.

Section 1. The governor with the advice and consent of the council shall appoint seven persons who shall constitute the state board of health.

Approved March 24, 1886."\(^1\)

"In March of this year, 1886, after a chequered existence of seven years, retributive justice... overtook that complex and unwieldy body, and an independent State Board of Health was again established.

...This Journal... heartily welcomes the return of more promising conditions."\(^2\)

\(^1\)/Laws and Resolves of Massachusetts, 1886, p. 82.

The wave of advance in every branch of medicine and surgery extended also to an interest in public and school health. The signs of the times pointed to better laws, a more intelligent understanding of them, and a greater willingness to accept and assist in their execution.

**Playgrounds and School Recesses**

In the winter of 1883, the Woman's Education Association of Boston undertook to provide, for both men and women, instructions to prepare them for emergencies in case of sudden illness or accident. As the work of the Association increased in scope, a new organization, The Massachusetts Emergency and Hygiene Association emerged to assume the added responsibilities and to spread its hygienic reforms throughout the State.

"To more thoroughly understand the relations which the Emergency and Hygiene Association bears to school sanitation, it will be necessary, in the first place, to briefly refer to the origin of this Society and to the scope of its work. In 1883 the Woman's Education Association, to which body this community is indebted for several very important reforms, recognizing the necessity for diffusing useful and practical knowledge among the masses, to be used in cases of accident or sudden sickness, undertook to provide such instruction, by volunteer lectures to both men and women, as would accomplish this result."1/

To fight the many hygienic errors in existence, it became apparent among the most intelligent observers that more out-door activities for school children were essential.

Playground work was the outgrowth of such endeavors. It began with three sand heaps in church mission yards, followed by sand gardens and finally a request to the School Committee of Boston for the use of its school yards.

"In cities, play was for many years limited by the lack of space; often no more ground was provided than that barely sufficient to meet the requirements of the schoolhouse. It was not until the eighties that the first sand bins were placed in a Boston mission. From this small beginning the movement grew. ....In 1888 seven Boston schoolyards were designated as playgrounds and were provided with bean bags, skipping ropes, balls, and tops as well as sand bins."1/

Closely related to the establishment of playgrounds adjoining school buildings were the many changes to take place relating to school sessions and the length of the school day. In particular were the debates on the "Recess Question" numbered among important school health problems of the eighties and nineties.

At first there was a general trend to shorten the school day and dispense with the recess period. This proposal met with considerable approval on grounds of health and morality. The facts presented in local School Reports will give the reader a clearer concept of the prevailing reasons that influenced school boards to endorse such action and change.

BARNSTABLE, Report of the School Board, 1884-5, p. 36:

"Recess. During the past two years many cities and towns have been making experiments upon the recess

question. They have abolished the mid-session recess and closed their schools earlier. The pupils have been allowed liberty to leave the room when necessary or required, and in place of the usual recess one or two brief seasons of five and ten minutes duration have been allowed for recreation, marching, singing, and a variety of exercises. Many who have tried this plan have reported in its favor."

CANTON, Annual Report of the School Committee, 1886, p. 17:

"The No-Recess Plan. The change from the old custom of giving a recess of fifteen minutes in the middle of each school session, has enabled both teachers and pupils to do an equal amount of work in less time and with greater comfort.

The reports received were uniformly favorable. The discipline of the schools improved at once."

School Reports for 1888-89, from Chelmsford, Waltham, and Walpole indicate unqualified approval and successful operation of the "no-recess" plan.

CHICOPPEE, Report of the School Committee, 1885, p. 22:

"It was thought best in the fall to dispense with recesses in all schools, as has been done in several, and to make the length of sessions the same in all grades."

EASTON, Report of the School Committee, 1889, p. 10:

"The no-recess plan has been on trial at North Easton one full term. So far as I have been able to learn, it has been generally an acceptable change."

HINGHAM, Report of the School Committee, 1883, p. 47:

"Another important matter receiving special attention at the present time is the 'No Recess Question'.

...The plan has been quite extensively tried and has received the approval of physicians, parents, teachers and committees, wherever fairly tested."
NEWTON, Report of the Superintendent of Schools, 1885, p. 43:

"Among all the objections raised to the discontinuance of recesses, the only one upon which any real stress can be laid is that the health of pupils may be materially injured."

SAUGUS, Annual Report of the School Committee, 1887-88, p. 5:

"The 'no recess' plan, so generally obtaining elsewhere, has been adopted in our schools, and thus far has worked admirably."

WALTHAM, Report of the School Committee, 1887, p. 8:

"No Recess Sessions. A full year's trial of this plan has only confirmed the favorable opinion expressed in our report of last year."

WOBURN, Report of the School Committee, 1882, p. 21:

"The Recess. This time-honored custom is no longer observed in our grammar schools. It is everywhere recognized as a source of much evil. . . ."

Reports from Andover, 1883, Ashland, 1894, Boston, 1891, Edgartown, 1892, Leominster, 1884, Lynn, 1883, North Adams, 1883, Stoughton, 1894, Westborough, 1889, and Worcester, 1885, held to the belief that the recess period was a necessity as a means of preserving health.

Although the movement against it proved popular at first, observations in the latter part of the century indicate a return to general recess as a necessary part of the school health program.

ASHLAND, Annual Report of the School Committee, 1894, p. 49:

"Recess. Pupils collectively or individually shall be allowed a recess . . . during both . . . sessions."
BOSTON, Eleventh Annual Report of the Superintendent of Public Schools, 1891, p. 22:

"The 'no-recess plan' seems to have had its run; and the adoption of the new courses of study for the primary and grammar schools has made it certain that there is to be a recess."

EDGARTOWN, Report of the School Committee, 1892, p. 4:

"There shall be one recess of fifteen minutes and no longer in each school session."

LEOMINSTER, Report of the School Committee, 1884, p. 27:

"I am fully committed to the notion that no child should be deprived of a recess, especially when the sessions are so long as they are at present. I have little faith in the doctrine that recesses are prolific sources of vice and immorality."

LYNN, Report of the School Committee, 1883-84, p. 56:

"No-Recess. At the present time, this is one of two prominent topics discussed by educators.

....I am not fully persuaded that the abolition of our present recesses is, in all respects, desirable for Lynn under present conditions."

NORTH ADAMS, Report of the Superintendent of Schools, 1883, p. 27:

"The main reason for the general recess has been its presumed necessity as a means of preserving health."

STOUGHTON, Annual Report of the School Committee, 1894, p. 148:

"Afternoon Recess. Notwithstanding the views advanced by the Superintendent, we are unable to find reasons sufficient to us for the abandonment of the afternoon recess."

WESTBOROUGH, Annual Report of the School Committee, 1889, p. 10:

"Recess. Pupils collectively, or individually, shall be allowed a recess...not exceeding fifteen minutes...."
The No-Recess innovation has not yet swept the country. Indeed, the agitation of the subject seems to have exhausted itself. This reform against nature,.... is already falling by its own weight;.... We may congratulate ourselves that we were left behind in this instance by the so-called car of 'progress.' The progress is the wrong way!"

The changes effected were the outgrowth of the experience and wisdom of those most intimately connected with school matters. After the experimental period of this innovation passed and the results were appraised, improvements over the former prevailing custom did not measure up to the acknowledged good anticipated. Consequently, a return to formal recesses under proper supervision and guidance was inevitable.

**School Buildings--Sanitation, Ventilation and Heating**

There can be few matters of more vital importance to the physical welfare of a community than the sanitary condition of its public schools. There was a general trend in the 1870's toward improving the general conditions of school buildings by the appointment of committees to investigate the newest hygienic methods of heating and ventilating schoolrooms. Such committees were appointed in Lynn in 1877-78; in Gloucester, 1877; Cambridge in 1878; Brookline appointed a Dr. Van Slyck to investigate the question in 1879; and Taunton in 1879; Pittsfield in 1878.

At the close of this decade marked improvements were
noted and mentioned by the Secretary of the State Board of Education.

"One will find now as he passes over the Common­wealth, that the towns are pretty well supplied with schoolhouses constructed in accordance with the principles of a better taste than formerly prevailed, and better adapted to the wants of school life."1/

One of the most important elements of progress in school buildings was achieved in 1888 by the passage of a Legislative Act regarding sanitary provisions and proper ventilation of schoolhouses.


Section 2. Every public building and every schoolhouse shall be ventilated in such a proper manner that the air shall not become so exhausted as to be injurious to the health of the persons present therein.

Approved March 20, 1888."2/

After the passage of this Act, no subject received so much attention from school officers throughout the State. In the erection of new school buildings and the remodeling of old ones, increasing attention is given to the conditions which contribute to health and comfort.

School Reports for the last decade of the nineteenth century emphasize over and over again the tremendous improvements being carried on. Cities and towns reporting progress


2/Laws and Resolves of Massachusetts, 1888.

Later School Reports attesting to school-building improvements are: Boston, 1893; Danvers, 1893; Falmouth, 1897; Groveland, 1894; Haverhill, 1894; Malden, 1894; Norwood, 1894; Tyngsboro', 1894; and Quincy, 1898.

At the turn of the century the application of science to the purpose of health and life, cleanliness, pure air, and sanitary arrangements of school buildings are among the most impressive outward results of a movement which had its origin in the Period of Educational Revival.

Physical Exercises

But however healthy the sanitary conditions of school premises, it is evident that the health of the school must depend also largely upon the amount of exercise, and rest from studies, afforded the pupils.

Public, social and educational movements in the United States often advance with so much rapidity that the observer is surprised at finding what he had fancied simply to be a budding idea already grown to the proportions of an
established fact.

This can certainly be said to be true of the growth of physical education in the United States. While the western cities have been the first to provide systematic physical training for the public schools, a great deal was accomplished also in Massachusetts, and more particularly in the schools of Boston.

"In 1892, Ohio was the first state to pass a law requiring physical education in the public schools of cities of the first and second class.

In 1899, North Dakota was the first state to pass a law making physical education a required subject in all common schools."¹

The Massachusetts Medical Society on June 8, 1887, appointed a special committee to investigate the subject of physical culture in schools of the State and to report on the same at a future meeting.

After careful study of all factors involved, the committee presented its findings to the Massachusetts State Board of Education. The report stressed the necessity for "physical culture as never before to meet the artificial conditions of urban life."²


²Z. B. Adams, E. H. Bradford and C. F. Withington, "Report of Physical Culture in Schools," presented to the Massachusetts Medical Society at its annual meeting, June 13, 1888, accepted by the Society and ordered to be presented, with its endorsement, to the Massachusetts State Board of Education.
In 1890, the Swedish or Ling System of educational gymnastics was introduced into Boston Public Schools. Dr. Edward M. Hartwell, a well-known authority on physical training, was appointed Director of the program.

"There is every reason to believe that we shall soon have in the Boston public schools an excellent system of physical training. The school committee has taken the matter in hand, and a special committee has been hard at work on the subject. To furnish instruction which shall be both intelligent and systematic to a large number of public schools is not an easy task, but the committee has gone to work in the right way in selecting a competent man, and giving him a responsible position and complete control of details."

The Ling or Swedish System rapidly gained ground and many cities and towns report its introduction into their school programs.

ATTLEBOROUGH, Report of the Director of Physical Culture, School Reports, 1898, p. 45:

"Instruction in gymnastics was begun under my supervision in the Attleboro Public Schools....when the Ling system was introduced into all grades above the first primary."

BRIDGEWATER, Report of the School Committee, 1895, p. 39:

"The Swedish system of light gymnastics has been introduced into the daily work of the school, and is proving highly beneficial."

BROOKLINE, 1899, Report of the School Committee, p. 25:

"The recent action of the board in appointing Mr. David H. Holmes as director of physical training in the

schools of the town promised good results."

**CAMBRIDGE**, Report of the School Committee, 1898, p. 36:

"The Ling system of physical training has been introduced into all the grades of the primary and grammar schools."

**DEDHAM**, Report of the School Committee, 1893-94, p. 38:

"Dedham has a Director of Physical Training. The Swedish or Ling System of gymnastics was introduced into the public schools....in December, 1893."

**LYNN**, Annual Report of the School Committee, 1895, p. 33:

"Physical Training in existence for four years. Ling System of gymnastics."

**HOLYOKE**, Annual Report of the School Committee, 1896-97:

"Holyoke has had Physical Training under a physical director for the past six years. The American System of Physical Education is used."

**MALDEN**, Report of the School Committee, 1893, p. 13:

"In 1891 a regular system of physical culture was introduced into the grammar and primary schools. This is also practiced under the direction of a competent supervisor...."

**NORTHAMPTON**, Report of the School Committee, 1896-97:

"Physical training in the Northampton primary, grammar and ungraded schools under supervision of a director. First year of Swedish Gymnastics."

**WORCESTER**, Report of the School Committee, 1896-97:

"Physical Training in the Worcester Grammar Schools, all grades, under a director."

Deprived of any active interest or encouragement from the authorities, progress in physical education cannot be said to have amounted to much in the schools of the following
cities and towns of the Commonwealth as indicated in their School Reports:

- Andover, 1897, p. 14
- Edgartown, 1897, p. 9
- Greenfield, 1898, p. 13
- Newton, 1895, p. 17
- New Bedford, 1894, p. 94
- Pittsfield, 1894, p. 88
- Salem, 1892, p. 34
- Worcester High Schools, 1897, p. 22

Thus at the opening of the twentieth century physical training in public schools has not yet achieved a dominant role in Massachusetts. This phase of education occupies but a small corner of the school program and is yet regarded, in many instances, as something extraneous which might be avoided.

**Health Education and Physiology**

Although physical activities were of inestimable value in the improvement of health standards, much more had to be done to integrate a well-planned and well co-ordinated school health service. Systematic general education of the school children in regard to health matters was imperative. The classroom teachers were called upon to present the subject to the children.

In 1885, a law was enacted in Massachusetts, providing for the teaching of physiology and hygiene as a regular branch of study for all pupils in all common schools.

"Chap. 332. An Act Requiring Physiology and Hygiene to be Taught in the Public Schools.

Section 1. Physiology and hygiene, which in both
divisions of the subject, is included special instruction as to the effects of alcoholic drinks, stimulants and narcotics on the human system, shall be taught as a regular branch of study to all pupils in all schools supported wholly or in part by public money,...

Approved June 16, 1885.¹

At the time the law was passed school teachers generally were poorly prepared to comply with its provisions. They did not know much of alcohol nor of the human system. There was little correlation between health ideas and the written word in textbooks being used. The laboratory method proved a great obstacle to hurdle in the face of so little knowledge to offer.

"Physiology. That so few of the teachers have themselves been scientifically trained is the chief cause of the defective teaching."²

"Physiology and Temperance. Much of the instruction is very elementary, some of it crude...."³

A closer study of the problems involved is given in School Reports of 1885-1900. The more enlightening discussions are presented here as a necessary tool to better understand the current of thoughts and ideas this law created.

BERLIN, Annual Report of the School Committee, 1886-87, p. 9:

"One branch, Physiology, more accurately Hygiene,

¹Laws and Resolves of Massachusetts, 1885.


has unexpectedly tested the skill of teachers. We are sorry to find a lack of interest in it on the part of many pupils."

BLACKSTONE, Report of the School Committee, 1887, p. 17:

"Most of our teachers have never perused a standard work on physiology and many even never received any instruction at all upon the subject while in school."

MELROSE, Report of the School Committee, 1894, p. 17:

"Through the kindness of the Woman's Christian Temperance Union of this town, each of our teachers is this year provided with 'The School Physiology Journal,' which has been very helpful to them in giving the instruction that is required to be given in all the schools of the town by state law...."

QUINCY, Report of the School Committee, 1886, p. 6:

"We are unable to record, with any degree of accuracy, the real progress which has been made in these studies, as they have been pursued but a few months, and differ so much from the ordinary exercises of the public school. We presume, however, that in time the results of this instruction will be apparent in the schools, and an increased interest manifested in the subject."

SPRINGFIELD, Superintendent's Report to the School Committee, 1885, p. 69:

"The study of physiology and hygiene,...has been well begun, and will doubtless do much good. The teachers are enjoying it and seem generally interested in it;...."

1887, p. 88:

"This whole subject needs to be in judicious hands, and no more should be attempted than can be done well."

1888, p. 36:

"Thirty-three states and territories have passed laws similar to the Massachusetts law,...and the national government has passed a national law, putting
this study into the schools of the District of Columbia, and into all government schools. Who can estimate the value to the health and to the morals of this nation, when, in the homes of the land, the laws of health and of disease are understood and intelligently obeyed...."

Immediately upon the passage of the law, the selection of an appropriate textbook for classroom use was another problem that required thoughtful consideration on the part of school committees and school administrators.

"An examination of the text-books which have been approved by the promoters of this bill shows that the emphasis is placed very largely on the physiological and pathological effects of alcohol, to the more or less complete exclusion of general hygienic topics of equal importance. Pupils in the primary and grammar grades are too young to understand these details and consequently are unable to get an intelligent grasp of the subject as taught."!

ABINGTON, Annual Report of the School Committee, 1885, pp. 4-5:

"Physiology and Hygiene--Immediately upon its passage....every publisher of any reputation in the country issued physiologies.... Many of them....con­tained such exaggerations and misstatements as to render them not only useless but positively injurious."

WAKEFIELD, Report of the School Committee, 1885-36, pp. 23-24:

"This law....added considerable responsibility and labor in the choice of text books and methods of executing the law."

The Natick School Report of 1887, pp. 6-7, alludes to the difficulty encountered in the matter of suitable text­books:

"Physiology and Hygiene. This problem, though we have been discussing and thinking about it for a year and more, has not yet been solved. ... The market is full of books, each of which is declared by those who have it to sell to be 'especially adapted to meet the requirements of the law,' ... But a satisfactory book for the lower grades of pupils we have not yet seen."

In the final analysis, the following texts were adopted generally by school boards throughout the State: Blaisdell's Our Body and How We Live; Smith's Physiology and Hygiene; and Cutler's The Maintenance of Health or Lessons in Hygiene, Physiology, and Stimulants and Sedatives.

The school year 1885-86 may well be considered as marking a bright landmark in the history of school health education in Massachusetts. While pupils were not expected to learn much of physiology as a science, an acquaintance with the laws of hygiene and health had a profound effect upon the course of events which were to take place in the early twentieth century regarding school health education.

Not too many years elapsed before the teachers, attuned to the needs of their pupils, began earnestly to prepare themselves to teach the facts relating to physical health and to train their pupils to observe the rules of healthful living.

"During the latter part of 1894 the secretary was permitted by the Board of Education to employ a special agent to help the teachers of the State in physiology and hygiene, with special reference to methods of temperance instruction."1/

It takes time to adapt a course of study to a system of schools. It must grow to the needs of the pupils. Only a beginning has been made, but the basic foundation appears to be along the right lines of enlightened approach.

Other Health Measures

School Furniture

A number of sanitary school reforms made their initial appearance at the close of the nineteenth century. None of them were extensive in scope, but the more enlightened communities fostered these innovations which were to take a firm hold upon all phases of school health throughout the State during the twentieth century.

The movement for reform in school furniture may be said to have begun with the publication in 1841 by Henry Barnard of his classic work on School Architecture. He was among the first to make definite measurements of children of different ages and to devise from this a scale for the height of the seat and desk. As long ago as at the Vienna World's Fair (1873), the exhibit of Massachusetts school desks and chairs elicited favorable European comment and stimulated efforts at improvements.

"...the first impulse toward improvement in school desks and seats started from this country and largely from Massachusetts. At the Vienna Exhibition, Boston's school desks and school seats received a diploma and a great deal of attention."1/

A very extensive and enlightening report on the subject of school seating by Dr. Edward M. Hartwell appears in the Fifteenth Annual Report of the Superintendent of Public Schools of the City of Boston for the year 1895.

At frequent intervals, commissions were appointed to investigate the subject and formulate scientific principles that should govern the construction of school desks and chairs.

The "Common Drinking Cup"

The "common drinking cup" became non-existent by 1897, at the suggestion of local boards of health. This measure was instituted in an effort to arrest the spread of communicable diseases and elicited favorable comments in the following School Reports:

HOLYOKE, Report of Committee on Health and Physical Education, 1897-8, pp. 129-130:

"We commend...the abolition of slates, the use of individual drinking cups, and individual towels."

PITTSFIELD, Report of the Superintendent of Schools, 1899, p. 195:

"At the suggestion of the Board of Health and in the line of what has been previously done to diminish the spread of contagious diseases in the schools, the pupils have been advised to provide themselves with individual drinking cups to be kept in their own possession and used when necessary instead of the cup provided for general use."

Blackboards, Walls, Ceilings

To protect the eyes of school children in rooms that
were insufficiently lighted, general attention to the color of walls and ceilings is suggested by John T. Prince, Agent of the State Board of Education in the 64th Annual Report of the Board, 1899-1900:

"In rooms that are insufficiently lighted, the ceilings and walls should be light, but not dazzling. A light gray or green color for the walls is recommended by good authorities."

A recommendation that blackboards be tinted green appear in the Salem School Report of 1879:

"The custom of painting the boards a dark green or brown color, instead of black....is a powerful aid in relieving the eye from the deleterious effects....from sharply drawn contrasts between the black-board and white walls."

Today, these scientific reforms are included as part of the program of well regulated Maintenance Departments of cities and towns in Massachusetts.

School Lunches

Among the newest innovation of the period were the beginnings made in providing hot lunches to children attending schools operating under the single session program.

NORTH ADAMS, School Report, 1899, p. 15:

"Lunch Room. The experiment of a lunch room at the high school has been very successful. ....the lunch room is as essential a part of the equipment of modern high school buildings as the laboratories or the gymnasium."

PITTSFIELD, Report of the Principal of the High School, 1899, p. 218:

"Another innovation made possible because of our
ample accommodations is the lunch counter. Only healthful articles of food are sold. Soups, sandwiches, milk, chocolate, fruit, crackers, etc..."

SPRINGFIELD, Report of the School Committee, 1898, p. 13:
"Lunch Room. This important step was taken by the Committee early in September."

Medical Inspection

One of the greatest movements of modern times for the preservation of health was the introduction of medical inspection of school children with the interest centered on the child's physical status.

In the United States the practice probably began in Boston in 1894, as a result of some serious epidemics among school children.

"Medical Inspection of Schools. The need of medical inspection of schools, for the purpose of detecting contagious and other diseases among the school children, was brought to the attention of the mayor and city council in 1892; and for this purpose an appropriation was then secured. A delay of several months was occasioned in securing the approval of the school committee, so that the plan did not finally go into operation till November, 1894, when the board of health selected fifty physicians for this purpose, divided the city into fifty school districts, and began school inspection. These physicians are appointed medical inspectors of schools and agents of the board of health, and are authorized to visit each school daily, during the early part of the morning session, and to examine all pupils who complain, or appear to the teachers to be ill."1/

This first trial at medical school inspection was

1/Twenty-Sixth Annual Report of the State Board of Health, Massachusetts, Public Document No. 34, Wright & Potter, Boston, 1895, p. 821.
primarily instituted to prevent the spread of contagious diseases among children.

The movement so closely related to the physical welfare of school children was destined to be successful and permanent. The ever-growing need for medical inspection and supervision to counteract unfortunate conditions and to stress observance of basic sanitary laws received widespread recognition.

The full impact of the right of the child to truly hygienic physical surroundings as well as to truly hygienic mental surroundings is no longer a matter for discussion alone. Action—firm, scientific, and decisive—must be taken and is being taken continually. School health education has found its niche in the scientific interpretation of education.

School health education in the twentieth century is so intimately connected with national strength and national welfare that it becomes a most important constructive undertaking of local communities and the Commonwealth.
5. Summary

The effects of the great industrial and social changes described in this section increased the responsibilities of the schools in matters of health. A satisfactory mode of education for an agrarian society of a generation ago proved inadequate for the needs of an industrial society.

The enormous and rapid expansion taking place in all fields of organized knowledge exerted corresponding changes in the concept and character of school health education.

The influence of science and scientific methods played a considerable part in awakening and stimulating a wide range of reforms destined to enhance the value of hygienic school living.

To secure health in the mass of the school population was far from a simple problem. It was a problem whose solution demanded the cooperation of several classes of experts in the fields of medicine, public health, sanitation, architecture, engineering, legislation, administration and teaching.

To the twentieth century will be given the task of unifying these agencies bearing on the health and progress of school children. Coming changes in educational reforms are to be hygienic reforms. In short, principles and ideals relating to the health responsibility and health problems of education will form part of that broader science to be
interpreted as school hygiene—hygiene of the kind that
discovers the benefits to be derived from healthful
surroundings and healthful living.
PART IV

THE BROADENING SCOPE OF SCHOOL HEALTH EDUCATION THROUGH LEGISLATION 1900-1915

1. Medical Inspection of Schools--The Acts of 1906
2. Eye and Ear Tests--The Acts of 1906
4. The School Nurse--The Acts of 1911
5. Dental Dispensaries--The Acts of 1914
6. Summary
PART IV

THE BROADENING SCOPE OF SCHOOL HEALTH EDUCATION
THROUGH LEGISLATION
1900-1915


By 1900 industrialization and urbanization were the outstanding new characteristics of American civilization. In the cities where population trends were increasing rapidly problems of chaotic growth were evident on all sides.

Improved conditions in western Europe had shifted the source of immigration to southern and eastern Europe. This immigration during the early years of the twentieth century reached a height never before achieved. The census of 1910 showed New England having a majority of the population composed of foreign-born white or of native white of foreign or mixed parentage.

This deluge of immigration presented general economic and cultural problems. Skilled workers were few, and the percentage of illiteracy was large. Overcrowding was common, especially in the slums where the masses of immigrants congregated. Life became a continual battle against filth and disease engendered by such conditions.

"The immigrants found employment chiefly in the manufacturing centers of the North Atlantic states and to some extent on the farms of the Middle West. The congestion of population in the Eastern cities was
constituting a problem before the end of the century.

The foreigners found shelter in miserable tenements or in garrets and basements, a dozen or more sometimes occupying the same room. Here in poverty and squalor they led a wretched existence, bringing up hordes of poorly clad and undernourished children to throng the dirty streets without.

The foreigners of later times came from the lowest order of European society. ...nearly all were backward people, ignorant and incapable of adjusting themselves readily to democratic society. They were useful only as factory workers or day laborers. Accustomed to a low standard of living, they were able to underbid American workmen in this field and thus drive down the wage level. All in all, the effect of unrestricted foreign immigration was degrading to American social life. Ideals of decency were lowered; the percentage of illiteracy mounted and crime increased despite the best efforts of schools and welfare agencies.

While America was revolutionizing its ways of living, a fundamental modification was also to take place in public school health programs. The undisturbed indifference to the health of children had become impossible because of the many social and economic factors occasioned by such changes. We were changing from an agricultural people to a race of city dwellers. The school year, once a three months' winter term, was now one of five hours a day, ten months of the year. Child labor laws and compulsory school attendance increased the number of years of school life. Going to school became the required occupation of all children living in the Commonwealth.

"I believe in medical inspection. It is a logical outcome of compulsory education. And so far as that goes, when the State institutes compulsory education, there is no logical limit to the functions that it may perform but that prescribed by the will of the people."  

Gradually, the necessity of exercising definite supervision over the health and development of school children became one of the most vital functions of the public school system.

"Wherever there is any considerable number of newly arrived immigrants, and the congestion of population has brought unsanitary personal and home and neighborhood conditions, there are found in the schools considerable numbers of children suffering from some of the many ailments by which childhood is rendered unhappy and proper development hindered."  

From these conditions medical inspection of schools for the prevention of communicable diseases had its origin. The physician entered the schools primarily as a medical inspector.

In Massachusetts, unlike other measures of reform the bill requiring the appointment of school physicians in each town and city, and making annual examination of all children compulsory, passed the Legislature without little opposition. The movement had behind it a powerful public sentiment and strong professional support.


Section 1. The school committee of every city and


town in the Commonwealth shall appoint one or more school physicians, shall assign one to each public school within its city or town, and shall provide them with all proper facilities for the performance of their duties as prescribed in this Act.

Approved June 20, 1906.\(^1\)

It was a memorable day in the history of education when the physician made his first official appearance in the public schools of the State. It doomed the fallacious philosophy that the mind was more or less independent of the body; that education had nothing to do with the body; that the body if abused might even lead to greater mental and spiritual power.

"The past concept of health as a gift of the Almighty to be dispensed or withheld according to whether He wished to chasten or reward has changed to the knowledge that health is obtained or lost by following or disobeying the laws of the Universe. The past idea of health as a thing apart from mind has changed to the knowledge that the physical and mental are indissolubly linked and that the health or disability of one affects the other."\(^2\)

In cities and towns the response to the mandatory provisions of the law excited enthusiasm through interest and curiosity. It also engendered a certain degree of indifference, ridicule and opposition.

It is impossible to make any general statement on the subject without reviewing School Reports to study the actions

\(^1\)Laws and Resolves of Massachusetts, 1906, p. 680.

taken by local school boards and local boards of health. Reports for 1906-07 indicate varying degrees of interest due to the following causes: 1) deferral of inspection to the beginning of the following year; 2) lack of appropriation to compensate physicians appointed; 3) conflicts arising between authority of boards of health and school committees. During this first year most plans were tentative and a well-organized system had yet to be worked out.

"Reports from Inspection by Physicians. As already stated, reports of inspection have been received from 23 cities and 102 towns. They include only 76 per cent. of the average membership of the public schools of the State, but the figures are sufficiently large to show that the State has not moved too soon in the effort to safeguard the school children."

Of the 321 towns and 33 cities of the Commonwealth reporting in 1908, 294 towns and 32 cities had appointed school physicians whose work was progressing with gratifying success. In a majority of cases the physicians report in writing to the committees and their reports are printed in the annual school reports.

"Reports received show that in 294 of the 321 towns and in 32 of the 33 cities school physicians have been appointed and are now at work."

The following statement from the Superintendent of Schools in Quincy is typical of many others included in School Reports of that year:


2/Ibid., Seventy-Second Annual Report, 1907-08, p. 87.
"...With the cooperation of parents and medical inspectors, the benefits to the children and the community will be incalculable. By removing physical defects and checking incipient disease, by securing a healthier growth and a better development, by awakening wholesome interests and by providing safe places for legitimate exercise, we render the instruction of the schools more effective, minor delinquencies less numerous, and the sum total of human happiness and usefulness much greater."[1]

The wisdom of the law was becoming more and more evident. "Changes in Massachusetts' school laws have always come about in one and the same way. The new has first been permitted, then approved, then adopted and made obligatory. So with medical inspection. It was tried for a dozen years, and worked well. It was approved and recommended by boards of health, by the state board of education and by superintendents of schools all over the state, the recommendation in Lowell in 1896 being one of the earliest. It finally secured practically unanimous approval, and was made compulsory by statute June 20, 1906."[2]

Medical inspection of public schools achieved recognition as one of the necessary means by which the spreading of dangerous, contagious, and infectious diseases in a community could be checked and public health enhanced. Preventive medicine was an outgrowth of this movement. It enhanced cooperation between educational departments and health departments not only to promote better health conditions, but also to carry to the people at large a greater understanding of healthful living so necessary in order to obtain the desired ultimate results.

1/Annual Report of the Superintendent of Schools, Quincy, 1908, p. 13.

Throughout the civilized world education is to a large degree compulsory. Few things so much interfere with the school work as sickness. Hence, there has always been considerable cooperation between health boards and educational authorities. The latest move in this direction is in the medical inspection of schools.

This movement, which had its origin in the schools of Boston but a few years ago, has so commended itself to school officials and parents that it received recognition not only in Massachusetts but in many other states and in leading cities of the country.

Since its first inception in Boston, the movement for medical inspection has rapidly spread in the United States, and in many states has developed from mere inspection for the detection of contagious diseases to systems embracing most thorough physical examinations.

At the present time—1908—there are in operation, so far as can be ascertained, systems of medical inspection in some form in...70 cities outside of Massachusetts. (As in this State medical inspection is obligatory under the state law, systems exist in practically every city.)

Each year sees school programs of the State formulate a more ambitious health program than the year before and each year sees progress secured more and more ungrudgingly. The health of the individual child and the resultant progress of the community is a live question of the times.


2. Eye and Ear Tests--The Acts of 1906

Less conspicuous, but no less important for the welfare of school children, was Section 5 of the Acts of 1906 calling for an annual examination of pupils to discover defects of vision and hearing. The law prescribed that the test be instituted by the State Board of Health and administered by the teachers.


Section 5. The school committee of every city and town shall cause every child in the public schools to be separately and carefully tested and examined at least once in every school year to ascertain 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....

Approved June 20, 1906."1/

Directions for testing sight and hearing were prepared by the State Board of Health and distributed to all teachers of the Commonwealth who were to administer the test.2/

Some surprise was expressed that the law did not require this work to be done by specialists. However, the intent of the law was that a scientific examination by specialists would

1/Laws and Resolves of Massachusetts, 1906, p. 681.

follow the work of teachers detecting defects apparently revealed by the tests.

During the hearings before the State Committee considering the Massachusetts Medical Inspection Bill, evidence was presented by medical men bearing upon the question of the fitness of teachers to conduct such examinations. The following opinion by highly competent doctors is particularly significant:

"Teachers can make the tests better than doctors. It is the opinion of the undersigned, based upon professional experience, that school teachers with the aid of printed directions properly prepared are, because of their acquaintance with the individual children under their charge and their consequent ability to communicate with them and to find out what is in their mind, more capable of making a satisfactory examination of the hearing of such children than a specialist called in for the purpose would be likely to be.

Signed, Clarence John Blake, M. D.
D. Harold Walker, M. D.
William F. Knowles, M. D."1/

There can be no doubt that the administration of vision and hearing tests by teachers awakened among them an interest in the bearing of physical defects on school progress. Thus a closer insight into the characteristics of their pupils stimulated them to further work in the field of child study. The following statement by Frank E. Parlin, Superintendent of Schools, Quincy, summarizes the importance attached to such an examination:

1/Joseph Lee and Margaret Curtis, Editors, Medical Inspection in the Public Schools, Leaflets, Massachusetts Civic League, No. 7, 1905, p. 38.
"While it is not claimed for these tests made by teachers that they possess the accuracy of a specialist, it is claimed that they were sufficiently accurate for the purposes for which they were given and that the results fully justify the wisdom of making them.

There have been many cases of marked improvement not only in scholarship, but in conduct where the defects have been corrected. In many cases attention, interest and ambition have displaced indifference and dullness;..."1/

Other reports, indicative of the trends in preventive and corrective measures to improve the health of school children are presented here.

"...This compulsory school attendance, without the precaution of first determining whether the eyes are in condition to safely undertake the work, is certainly a form of criminal negligence, concerning which posterity will judge us harshly. The child has no criterion of vision or hearing with which to compare his own, and is often branded as mentally deficient because of his inability to see and hear properly. It is marvelous to note the brightening of the face which often follows the correction of the defect, the dull, pained look disappearing like magic."2/

"I recall instances within the range of my own observation of pupils who found it impossible to secure promotion regularly with their classes and were rated mentally deficient when the cause was principally a defect of sight. I have seen those same pupils, after the defect had been discovered and remedied, easily take creditable standing in their work."3/

Obviously the Acts of 1906 aim to accomplish two purposes which are quite distinct. First, the services of school

1/School Report, Quincy, 1904, p. 23.


physicians are made available to discover incipient cases of infectious disease, and by isolation prevent the disease from becoming epidemic. This is in the interest of public health. The second purpose of the law, "to prevent injury to the child" is much more fundamental in its character and likely to be more far-reaching in its influence. This is in the interest of the health and general physical well-being of the child.

"The wisdom of examining the eyes and ears of the pupils once each year cannot be questioned. That equally good results will follow Medical Inspection is the testimony of those best able to judge."\(^1\)

\(^1\)Report of the Superintendent of Schools, Pittsfield, Massachusetts, 1907, p. 151.
3. School Instruction in Tuberculosis and Its Prevention
The Acts of 1908

The responsibility of the school for the physical side of the child's life is more keenly felt year by year as actual conditions become more clearly known. School health progress continues uninterrupted. New problems are insistently forcing themselves on the attention of school administrators and health officers. Chief among those to interest local and state authorities was the ever-present dreaded "White Plague" or tuberculosis.

The American Anti-Tuberculosis Movement had its beginnings at the turn of the century in an effort to control one of the most widespread of diseases.

"The reduction of the mortality from consumption is one of the greatest of sanitary needs; for this is, in our climate, the most destructive of all diseases. Great as has been the apparent decline in the last forty years, it still holds its place at the head of the list, having caused in 1890, 5,791 deaths. ...In Massachusetts, the mortality from this disease is greater in the eastern than in the western counties and is greater in the cities than in the country.

There are, however, certain ways in which much benefit may be reaped from measures of a public character. ....One consists in an increased attention to instruction in hygiene, ..."1/

When the National Association for the Study and Prevention of Tuberculosis was formed in 1904, its primary purpose

was the dissemination of knowledge about the causes, treatment, and prevention of tuberculosis.

It became apparent that more than ordinary medical and sanitary measures were needed to control the ravaging effects of the disease. Misinformation of the more dangerous sort had to be dispelled. A distorted public attitude had led people to be secretive about its presence in the household. Here, indeed, was a problem in health education. Victims of the disease had to be found. Before they could be found, life-long prejudices had to be broken down. It became evident to the leaders who guided the movement in its formative stages that the public schools were in a position to furnish one of the many desirable outlets needed for wholesome educational activities in hygienic living.

Out of this desire to "bend the twig" to healthy living, the Legislature of 1908 added "tuberculosis and its prevention" to the legal requirements for school instruction, so that the law read:

"Chap. 181. An Act Relative to Instruction in the Public Schools as to Tuberculosis and Its Prevention.

Section 1. Public Schools. In each of the subjects of physiology and hygiene, special instruction as to the effects of alcoholic drinks and of stimulants and narcotics on the human system, and as to tuberculosis and its prevention, shall be taught as a regular branch of study to all pupils in all schools which are supported wholly or partly by public money,..."\[1/\]

\[1/\]Laws and Resolves of Massachusetts, 1908, p. 133-134.
In order that the teachers might have some authoritative guide in carrying out the provisions of the law, the State Board of Education published a booklet of suggestions prepared by specialists in pulmonary diseases. A copy appears in the Seventy-Second Annual Report of the State Board of Education, 1907-08, pp. 97-105.

In an effort to provide healthful conditions for school children exhibiting signs of incipient tuberculosis "open-air schools" became very popular in many localities in the Commonwealth.

"In October, 1908, an open-air class for tuberculous children was established. Thirty-eight children have been admitted to the class, all of whom were positively diseased. Twenty of this number have been dismissed entirely cured and have been reinstated in their regular classes without loss of grade. Another experiment with pupils of low vitality has been conducted in another quarter of the city with gratifying results. And it has been decided by the School-house Commission that in all buildings hereafter constructed a room shall be provided especially adapted to pupils who are physically subnormal."  

BROOKLINE, School Report, 1912, p. 37:

"Open-air Rooms. What is most important in this matter of open-air rooms is a general recognition of the urgent need of more fresh-air for children while gathered together in a room. ....It is not important whether they breathe such air because they are debilitated or because they are well. They all need it in either case."

CAMBRIDGE, School Report, 1909, p. 64:

Early in April the first Fresh-Air School for the

special care and instruction of delicate children will be ready to begin its important and much-needed work.

The school is...for frail, anaemic or ill-nourished children who are peculiarly susceptible to the attack not only of tuberculosis but of other diseases.

While careful instruction in the regular school subjects will be provided, special attention will be given to the health and physical needs of the children."

CHELSEA, Fifty-fifth Annual Report of the School Committee, 1911, p. 10:

"Arrangements have been completed for fresh air classes for pupils who are anemic and predisposed to tuberculosis."

SALEM, Report of School Physician, 1910, p. 34:

"....yet we do find a certain proportion of anemic, poorly-nourished, pre-tubercular children. By 'pre-tubercular' I mean children, who from physical condition and home environment are excellent invitations for the spread of the disease. It is to be regretted that at present we have no way of giving these children the benefit of physical, as well as mental, health, that can be derived from an open-air school."

SPRINGFIELD, Report of the School Board, 1911, p. 38:

"The Open-Air School. The Local Society for the Prevention of Tuberculosis has combined with the School Committee and the City Property Committee in fitting up an open-air school...."

Open-air schools undoubtedly marked an undue stress for the physical well-being of school children. Its benefits were too narrow in policy to survive the assaults made upon it for economic reasons. In public school education, the aim is constantly to give the most good to the largest number at the least expense. If, therefore, fresh air is good for selected children, it is good for all children; and
it is poor economy to give it freely to a selected few at considerable expense and to refuse it to the remainder. Logically, no municipality is so ideally prosperous.

Conceived with but a single object in view, the possible consequences of open-air schools along lines other than hygienic were not foreseen immediately. A steady return to more normal levels were experienced at a later period as sober second thought disclosed the need for a recession to the open-window school-room affording a minimum of expense and equal advantages for all.

Progress in the educational method of attack upon tuberculosis was achieved through trial and error. Nevertheless, the knowledge gained from open-air schools was invaluable in making possible reforms to better the hygienic environment of school children. It became quite clear to leaders of the movement that, without public understanding, health officials could not put the findings of scientific research into effective operation. If the spread of tuberculosis were to be checked through education, then the work was not in vain.

That the State Legislature stood ready to endorse such a program indicates the role of leadership it assumed in providing legal sanction to movements designed to protect the health of communities.
4. The School Nurse--The Acts of 1911

Notwithstanding the benefits derived from systematic medical inspection of schools, it was recognized on all sides, and particularly by the medical inspectors themselves, that the system was not complete in all its details. Pupils were examined and advice given to the teachers, who notified the parents of the findings and of the measures to be adopted for relief. In many instances the parents took no notice of the suggestions made. As a result of this, and by reason of the fact that no treatment was instituted, it was felt that the medical inspector's duties should be broadened and that school nurses, subordinate to and under the control of the medical inspector, should be employed.

"In many cities where physicians were employed to perform the school inspections, innumerable defects were recorded, but only a small percentage received treatment. This was due to indifference or ignorance on the part of the parents, who did not realize the importance of the recommendations, and to the inability of the physician to spare the time to personally explain to them the dangers of certain diseases. It was evident that some connecting link was necessary between the doctor and the parents, the school, and the home. The nurse has filled this gap in medical inspection." 1/

Like many other movements for school health reforms, school nursing in Massachusetts was started under the direction of and financed by private associations and philanthropists, the work later being taken over by municipalities, usually boards of education.

"School Nurses. In November, 1905, the School Committee gave permission to the District Nursing Association (subsequently the Instructive District Nursing Association)....to place a trained nurse in the schools of the Quincy and Wells Districts for the purpose of supplementing the work of the medical inspectors....the service....is furnished without charge to the city.

In September, 1906, this Association, under permission given by the School Committee, placed a nurse in the schools of the Bowdoin and Phillip Districts, and proposes early in 1907 to assign nurses to the Eliot and Hancock Districts as well.

The Mount Sinai Hospital Society, situated in the West End,...signified its desire to be of service in the same direction, and with the consent of the School Committee has employed a nurse in the Washington School District,..."1/

The success of this nursing service, furnished without expense to the city, was immediate and convincing and the plan was heartily endorsed by school officials.

"In the opinion of the School Committee, the employment of a sufficient number of nurses in the public schools at the expense of the city is a matter well deserving serious consideration,..."2/

School nurses were appointed by the Boston School Committee in 1907 to supplement the work of the physicians.

"....the School Committee is authorized to appropriate, and did appropriate, the sum of $10,000 for the year 1907, and thereafter it is authorized to make an appropriation for the maintenance of....nurses...."3/

Other communities also attempted to secure the services

1/Annual Report of the School Committee of the City of Boston, 1906, p. 51.
2/Ibid., p. 52.
3/Ibid., 1907, p. 7.
of a school nurse, realizing fully the many advantages to be derived from such a program.

BROOKLINE, Report of the School Committee, 1909, p. 29:

"a school nurse has been appointed... She will cooperate with medical inspectors, with teachers, and with the attendance officer."

CAMBRIDGE, Annual Report of the School Committee, 1908, p. 73:

"The work of the school nurse merits recognition in this report.

In her visits to the schools she has helped the teachers to discover the first indications of disease, and in her calls at the homes she has shown the parents how to follow-up effectively the directions of the school inspector; she has also taken many children to hospitals for treatment."

The first school nurse in Cambridge began her work in November, 1907."

FALL RIVER, Annual School Report, 1909, pp. 25-27:

"A school nurse was appointed.

On the whole, there is a general improvement in the matter of medical inspection in the public schools, and there seems to be a hearty co-operation on the part of all concerned to improve the hygienic conditions of the children, at home, in the schools and on the streets."

One of most important steps in the broadening concept of medical inspections of schools in Massachusetts was the appointment of nurses in the schools through an Act of the Legislature approved in 1911.

"Chap. 72. An Act Authorizing Towns to Appropriate Money for the Employment of Nurses.

Section 1. Towns are hereby authorized to appropriate annually a sum not exceeding two thousand
dollars for the employment of district or other nurses

Approved March 1, 1911.\footnote{1/Laws and Resolves of Massachusetts, 1911, p. 54.}

Obviously, the school nurse furnished the connecting link between the school medical service and the home. Her special functions became more valuable as she worked with the teacher, the school physician and the parents for the betterment of the health of the child.

"The value of the school nurse is one feature of medical inspection of schools about which there is no division of opinion. Her services have abundantly demonstrated their utility, and her employment has quite passed the experimental stage."\footnote{2/L. P. Ayres and May Ayres, Health Work in the Public Schools, Survey Committee of the Cleveland Foundation, William F. Fell Company, Philadelphia, 1915, p. 21.}

As interest in the prevention of diseases and treatment of defects of school children increased in scope, it became clear that a great deal could be done toward this end by complete recognition of the effectiveness of the school nurse in the school health program.

In the following School Reports, published after the enactment of the Acts of 1911, mention is made of the need for school nurses to supplement and coordinate the work of the school medical inspector:

\textbf{Amherst, Annual Report of the School Committee, 1911, p. 113:}

"The Woman's School Alliance is paying the salary
of a school nurse, who, under the direction of the school physician, visits the schools, examines the physical condition of the children, and makes suggestions in regard to their health."

**Boston, Annual Report of the Superintendent, 1913,**

School Document No. 10, p. 131:

"It is not possible for anyone not closely in touch with the work being done by the school nurses in Boston to form any just estimate of the value of this part of the public school organization."

**Norwood, Forty-First Annual Report of the Public Schools, 1913,**

p. 16:

"The school nurse is constantly engaged in bettering physical conditions among the school children. The schools are not only teaching hygiene by the use of a text but are trying to teach the children the practice of hygiene in their daily living."

**Pittsfield, Superintendent's Report, 1914,**

p. 206:

"For a part of last year the Board of Health Nurse was enabled to give some of her time to school work. The result of her visitations to the home justified all the claims that have been made for such work."

**Quincy, Report of the Superintendent, 1915,**

p. 271:

"The School Department will hereafter employ a school nurse and should have several. An efficient and adequate system of medical inspection by school physicians properly compensated is urgently needed.

**Salem, Report of the School Physician, 1911,**

p. 36:

"...we have our diagnostic agent, but where is the proper agent for post observation, curative and preventative treatment?

...Someone, preferably a nurse, is needed, who can devote her entire time to the matter—follow the children to their homes, make explanations and demands if necessary..."
SPRINGFIELD, Thirty-Third Annual Report of the Board of Health, 1914, p. 515:

"A definite advance has been made in obtaining desired results from school inspection and child welfare work by the addition of the school nurse."

TAUNTON, Report of the School Committee, 1913, pp. 21-22:

"Whatever differences of opinion may be held as to the proper functions of the public schools, it is generally conceded that in practice the school nurse is as necessary for the proper oversight and welfare of the children of the schools as the school physician; that without the school nurse the work of the school physician is necessarily incomplete, and therefore to a large extent ineffective."

Poverty, ignorance, and indifference were causes assigned for the failure to obtain treatment for defects indicated by school physicians. The trained school nurse with her follow-up system was the solution to the problem. Her work is steadily growing and becoming systematized. In the years ahead school nursing will become a most important adjunct to the work of school medical inspection."
5. Dental Dispensaries--The Acts of 1914

Ideas in regard to school health programs were constantly changing and enlarging. Among the discoveries made by Massachusetts school physicians in the performance of their duties was the fact that a great number of children had defective teeth and that little was being done for them either in care or treatment.

The examination of the teeth of school children had, as yet, been carried out in but few places. Notwithstanding this apparent deficiency, the Dental Hygiene Council of Massachusetts in 1908 made a commendable attempt to educate the public regarding the care of the mouth and teeth.

"To the end of furthering the general subject of dental hygiene, a committee, to be known as the Dental Hygiene Council, representing the dental societies and profession in Massachusetts, together with the Harvard and Tufts Dental Schools, has been organized. The essential object of this council...is designed to prosecute this work, particularly in the schools..."

Printed instructions on "How to Care for the Mouth and Teeth and Why," were prepared by the Council for distribution in the public schools.

Superintendent of schools were urged by the Council to use their fullest powers toward establishing school dental


inspection. A growing conviction in the minds of those who were giving much thought to the desirability of placing dentists upon the staff of medical inspection of schools was apparent for the following reasons: 1) a large number of defective teeth have been found where examinations have been made. 2) Defective teeth cause the child much pain which interferes with general health. 3) An examination of the teeth gives the opportunity for advice as to necessary treatment and as to prophylactic care.

The need for dental examination is mentioned in a number of School Reports:

AMHERST, School Report, 1912-13, p. 10:

"The school physician sometimes finds the teeth of the school children in a deplorable condition, showing that some parents give little thought to the care of the children's teeth.

...there is an increasing demand for dental inspection and, if possible, we should give some encouragement to parents who can ill afford the expense of having the defective teeth of the children receive attention from the dentists."

ANDOVER, Annual Report of the School Committee, 1910, p. 22:

"A serious health problem is the question of dental hygiene. Andover has the credit of being the pioneer in this field of child welfare. It is rather curious that a movement should start here and die out and yet spread all over the country. The problem is still ours and merits early consideration."

ATTLEBOROUGH, Annual Report of the School Committee, 1911, p. 52:

"It would seem wise to urge the School Committee to take, this year, steps to make needed arrangements with
local dentists for the care of young children's teeth. This would...emphasize to all parents this crying need."

**BELLINGHAM, Report of the Superintendent of Schools, 1912-13, p. 12:**

"It is a well known fact that comparatively few children of school age have sound teeth, but it is not so well known that bad teeth are unnecessary, that they injure both the looks and the health of the child."

**BROOKLINE, Report of the School Committee, 1908, p. 36:**

"The results of the examination of the dentists were amazing. ...A school dentist seems not too much to hope for at some time in the near future."

**FALMOUTH, School Report, 1914, p. 39:**

"The teeth however, in the great majority of children are in a most deplorable state and it would seem advisable that the attention of the parents should be called to this matter and the importance of dental hygiene elaborated."

**MALDEN, Annual Report of the School Committee, 1912, p. 13:**

"Dental Examination and Clinic. Another important step in promoting good health was taken when arrangements were made last April with the local dentists to examine the children of all the elementary schools, and to treat needy cases at a nominal charge in a clinic fitted up by the School Board...."**

**MILFORD, Annual School Report, 1911-12, p. 21:**

"Wherever medical inspection of school children has gone, one of its earliest discoveries has been a shocking condition of the children's teeth,..."**

**PALMER, School Report, 1912, p. 42:**

"One addition to medical inspection should be made. It is now in operation in nearly all of the progressive cities and towns in the state. Arrangements could be made with the local dentists...whereby such an inspection could be carried on...."
PLYMOUTH, Annual Report of the School Committee, 1913, p. 12:

"Dental inspection with treatments by specialists has passed beyond the experimental stage. It is indispensable."

QUINCY, Report of the Superintendent of Schools, 1911, p. 33:

"Medical inspection should be extended to include dental inspection, and possibly in some cases dental repair."

SPRINGFIELD, Report of the School Board, 1908, p. 57:

"The subject of dental inspection, which was recently brought to our attention, was referred to the Board of Health."

That school medical inspection should be extended to include dental inspection was attracting considerable attention at this time. Sanction for such a program was given the schools through the State Legislature by an Act authorizing the maintenance of Dental Dispensaries for children of school age.

"Chap. 677. An Act to Authorize the Maintenance of Dental Dispensaries in Cities and Towns.

Section 1. Any city or town is hereby authorized to establish and maintain one or more dental dispensary for children of school age, the funds appropriated therefor to be expended upon such terms and conditions and under such regulations as the local board of health of the city or town may from time to time prescribe.

Approved June 16, 1914."1/

1/Laws and Resolves of Massachusetts, 1914, p. 649.
Confronted with the problem of caring for defective teeth, as well as for other defects noted in the process of medical inspection of schools, health officials were called upon to institute remedial measures. The movement for the introduction of oral hygiene into the school health program had its origin at this period.

More and more the benefits of applied medical science were being introduced into school health programs. Without attempting to relieve parents of their primary duties toward their children, the schools, nevertheless, are assuming greater responsibility in guiding and directing the youths of the Commonwealth into programs incorporating all aspects of healthful living.
6. Summary

The paramount obligation of the State to provide for the physical as well as the mental education of each and every succeeding generation grows out of an imperative and never-ending duty. It arises out of the correlative right, possessed by the State to do, and require to be done, whatever is necessary for its orderly development and its highest good. One of the best evidences of the State's interest in the health of the school child is to be found in the Legislative Acts passed during the period of 1900-1915.

Broadening powers were being exercised by the State to bring about major health reforms applicable to the child while in school. From compulsory legislation for medical inspection of schools to detect contagious diseases, legislative acts were next extended to include tests for eyesight and hearing, followed, in a short space of time, by the introduction of the school nurse and the establishment of dental dispensaries.

This new interest in school health legislation is rightfully regarded as a prime essential to good government and national progress.

With the growth of democracy, the importance of the school becomes paramount, and its control by the State becomes essential for continued expansion of educational opportunities and services to all.
PART V
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To trace the historical development, progress, and direction of school health education in Massachusetts from the Colonial Period to the First World War has been the primary objective of this study.

The educational system and provisions of the Colonial Period were closely connected with the duty to prepare useful future members of the church. Consequently formal education of children was very early made the legal duty of parents and communities. However, there is little or no indication to the effect that the interest for the health and physical well-being of the scholars were the concern of the common schools.

Early legislative enactments in matters pertaining to school health in Massachusetts were designed primarily to protect communities against communicable diseases, particularly smallpox.

The immediate effects of the Revolutionary War were adverse, and in certain aspects, disastrous to the interest of education, and more particularly health education. The formation of a new Union almost engrossed all thoughts and absorbed all exertions and resources. Educational advances dealing with the future gave way to more pressing and immediately felt needs. When the independence of the
country was achieved, and the Federal and State Constitution adopted, attention was again turned to the importance of health in the schools.

In the nineteenth century the development of the factory system and the rapid growth of cities gave rise to social and economic problems. School health policies were inaugurated and fostered by the indomitable energy and fearless enthusiasm of educational and professional leaders. Such a foundation was laid during the period of educational revival (1830-1865).

In Massachusetts annual school reports to the Secretary of the Commonwealth by school committees of cities and towns were required by law in 1826. Not until the establishment of a State Board of Education in 1837 were these reports submitted by all cities and towns.

Permissive legislation for the teaching of physiology and hygiene in common schools of the State was placed on the statute books in 1850.

During the latter part of the nineteenth century construction of more hygienic school houses was noticeable.

The Massachusetts Medical Society encouraged, guided and directed many of the activities designed to raise the standards of health throughout the Commonwealth. Improvements, of necessity, were slow, but permanent and substantial.

After the Civil War the nation regained its unity, the frontier came to an end, the cities and industries
developed, and health education in the schools of Massachusetts began its rise to unprecedented significance.

School Reports for the period 1865-1900 are replete with evidence of growth and development in school health practices. We find progress reports in school health, in school architecture, in the study of physiology, in school attendance and age requirements, in health laws to control contagious diseases, in the organization of playgrounds and school recesses and in many other health measures.

Scientific advances in technology and medicine at the turn of the twentieth century revolutionized methods and concepts in education. New values were created and progressive forces were set in motion fostering improved conditions in matters pertinent to school health.

The study of natural and physical sciences gave us a new and intimate acquaintance with the human body. Among the fruitful discoveries in that direction were those that showed the unity of mind and body.

Formal inspection of school buildings awakened a general interest in sanitary engineering and in the application of its principles to the location, construction and use of all buildings in which the health and physical comfort of children were considered. Not only were the schools becoming healthful places for the instruction of children, but responsible health agencies within the schools were created to protect and promote child health development through progressive legislation enacted during the period 1900-1915.
The Act of 1906 sanctioned compulsory medical examination of all children in Massachusetts public schools. The entrance of the physician into the school room was primarily an emergency measure to arrest the spread of infectious diseases. Once inside the schools, he remained to discover that large numbers of supposedly normal children had physical defects which were handicapping them both mentally and physically.

Section 5, of the Act of 1906, prescribed an annual examination of pupils to discover defects of vision and hearing.

The Legislature in 1908 added tuberculosis and its prevention to the legal requirements for school instruction in an effort to control the ravaging effects of this widespread disease.

In 1911 by an Act of the Legislature the presence of the school nurse paved the way for a better understanding of the importance of remedial health measures in the school program. Obtaining results in the correction of defects as well as in the follow-up of detected diseases became the responsibility of the school nurse.

The attention given to the health of school children through legislative acts was indicative of progress. By 1915 the trend was toward a positive and constructive health building program.

At the onset of the First World War the Commonwealth of Massachusetts entered a new era in which the meaning of health education was to encompass not only the
detection of diseases and defects, but also their prevention and cure. With the advent of new developments and new directions there appeared a strong feeling that the public responsibility was to extend even into the realm hitherto occupied exclusively by the home.

Essential elements of reform contributing to healthful school living were not wrought in a day nor in a generation, but through the evolving purpose of the ages.
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