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# FIFTH ANNUAL REPORT

OF THE

# STATE BOARD OF HEALTH

OF

## MINNESOTA.

JANUARY, 1876.

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PRINTED BY AUTHORITY.

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1877.

OFFICE SECRETARY STATE BOARD OF HEALTH,  
RED WING, January 30th, 1877.

*To his Excellency John S. Pillsbury, Governor of Minnesota:*

SIR:—I have the honor herewith to transmit the Report of  
the State Board of Health for 1876. Respectfully,

Your obedient servant,

CHARLES N. HEWITT,

*Secretary State Board of Health*

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## MEMBERS STATE BOARD OF HEALTH.

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D. W. HAND, M. D., St. Paul.

V. SMITH, M. D., Duluth.

CHARLES N. HEWITT, M. D., Red Wing.

FRANKLIN STAPLES, M. D., Winona.

W. H. LEONARD, M. D., Minneapolis.

E. J. DAVIS, M. D., Mankato.

CH. GRONVALD, M. D., Holden.

## GENERAL REPORT FOR 1876.

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The State Board of Health and Vital Statistics respectfully report :

During the year past, there has been less epidemic prevalence of disease ; less sickness, and less mortality than for several preceding years.

There is an increasing popular interest in sanitary matters. People are caring more for the purity of their water supply, the condition of their cellars, out-houses and drains, the warming and ventilation of their dwellings, as affecting the health of the family. It has been the constant aim of this Board to attract attention to the necessity for intelligent care of these matters by house-holders.

In the paper entitled "Infant Mortality ; Its Causes ; Their Modes of Operation, and the Means of Their Prevention," (Appendix A.) more evidence is drawn from the vital statistics of the last five years, and from medical experience, to show that our strongest hope for the diminution of this "slaughter of innocents" is the belief that more care will be taken in the future than the past to remove from our houses, disease causes, which without ceaseless vigilance harbor in and around them.

It is not the climate, nor the food, nor the clothing, now so commonly blamed for this mortality, that are really at fault. It is oftenest in impure house air that fatal poison comes to little ones. Parents have yet to learn that one of their most important duties is to know how to prevent sickness in the family.

To prevent disease rather than to wait its attack, before dealing with it, is the most valuable lesson taught by modern hygiene. Another of its lessons, and one which should be remembered, is that the feeblest attempt, faithfully and intelligently made, always receives adequate reward.

It is just cause for congratulation that the school authorities throughout the State are awakening to their duty in this respect,

and are doing more to make the school house a means of health, as of scholastic education. This effort is most evident in the larger towns. While we have to report many expensive failures, we are glad to be able to report also more commendable successes.

The city of Winona, for example, is fortunate in their School Board. The two public school buildings, last erected by them, are a credit to the board, an honor to the city and the State. They are a long step in advance in school construction, and worthy of study by those whose duty it is to build such houses, and who desire to use the talent and best effort in this direction.

The great difficulty in school building is to harmonize sanitary and scholastic needs with architectural and mechanical work, to make the building pleasing to the eye; satisfactory as to cost; convenient for teachers and pupils, and with these to secure proper warmth and ventilation. The stumbling blocks have always been the two last.

We could fill a volume with descriptions of the expedients resorted to, even in costly buildings, to palliate defects in warming and ventilation, which are due to faulty original construction and are now nearly incurable.

We do not exaggerate, in reporting, that proper ventilation is rarely secured, and that satisfactory and economical heating is equally rare in the public schools of our large towns. As respects the common school houses, the concurrent testimony of superintendents and teachers is all in a like direction.

At the last meeting of the State Teachers' Association, the feeling found expression in the correspondence appended. (Appendix B.) As a result of that appeal, this board have ordered the preparation of a series of facts upon the hygiene of the common school.

The first of the series is attached to this report. (Appendix C.)

It is an attempt to improve the warming and ventilation of existing school houses by the use of simple and inexpensive means.

The second paper of the series will discuss the best plan for new common school houses, and the methods of warming, ventilating, lighting and furnishing school rooms.

The secretary of the Board will continue during the year the series of experiments with those for warming and ventilating begun in 1876. Valuable results have already been obtained, and the further inquiry will include the study of warming and ventilating apparatus for dwellings.

By instruction of this board, and at the request of the regents, the secretary has for the last three years served as Professor of Public Health at the University of the State. The subject of the

course of lectures last spring before the Senior class was "Personal Hygiene." He has also, by our instruction, addressed the State Educational Association, and read them "A study of vital statistics of an average Minnesota population of 10,000 persons for an average year," which as giving in connected form a summary of the life of such a population, is worthy of study, and is reprinted. (Appendix D.) The secretary has also addressed other teachers' institutes and schools upon sanitary subjects, and availed himself of the columns of the newspaper press when opportunity occurred.

Up to the date of this report, Minnesota has escaped the epidemics of small-pox, scarlet fever and diphtheria, which are now prevailing in adjoining States.

Small-pox is reported epidemic in Wisconsin and Manitoba. We have been unable to get accurate reports from Manitoba, but from Wisconsin we are assured by a circular of the Wisconsin State Board of Health, that "the disease has appeared in many places in that State, and has continued to spread where it has found a foot-hold." Our people are in constant communication with the infected districts. •

We have issued a circular calling attention to the danger and to the means of prevention. (Appendix E.)

Knowing the ignorance and prejudice of some portions of our population as to vaccination, and the carelessness of all classes as to its repeated use, we have offered to supply pure animal virus, taken directly from young heifers, at the cost price, removing in this way all opposition based upon the supposed danger of using humanized virus.

Since the publication of the circular, every call for this virus has been promptly met. Letters have come in from all parts of the State. In the majority of cases animal virus is used to get a new start for humanized virus, and great benefit will follow the adoption of this course by physicians.

There is so much popular indifference as to the use especially of re-vaccination, that we give a few facts of the history of small-pox before and since Dr. Jenner's discovery, which ought to be sufficient to demonstrate that vaccination is the only bar to an outbreak of this dreaded scourge, only second in severity to its work before vaccination, when it was the most loathsome and fatal of human disorders. (Appendix F.) We also publish directions for the prevention of contagious diseases, and for their management when they occur. (Appendix G.) Should small-pox appear in any locality, the duty of every citizen is very simple and plain.

1st. To see that his own family, including himself, are protected by vaccination and re-vaccination, and then to help create a public opinion which shall compel the same precaution by every one else.

2nd. To insist that all cases of the disease be excluded from all possible intercourse with others, and that they have every comfort and attention which their condition requires. With our present facilities for dealing with small pox there is not any occasion for panic or alarm. Only let energy often paralyzed by fear, find vent in intelligent care and precaution, and all will be well.

#### THE INSPECTION OF THE PUBLIC INSTITUTIONS.

This report (Appendix "H,") is made up from the special reports of committees of this Board, who made special visits for the purpose.

Most of the defects in heating and ventilation in these institutions, to which we have called attention for several years, are caused by the faulty original construction of the buildings, so that our recommendations, and the efforts of the managers are of necessity palliative. The State Capitol is an example in point.

The only possible remedy must be for the future, and we respectfully ask that copies of all plans proposed for change in old buildings, as for new ones, be filed in our office, for examination and future reference, and that no such plan be adopted until it has been carefully studied with reference to its provisions for lighting, heating, ventilation, water supply, and other sanitary necessities. In this way we can save much unnecessary expense, and subsequent disappointment and trouble.

The State Inspector of Illuminating Oils reports the operation of the existing law as satisfactory. As this report goes to press there are renewed complaints as to the bad qualities of kerosene now furnished by some oil companies. We have not had time to investigate the matter, but if there seems reason therefor will do so, reporting the result.

Since our last annual report, Dr. A. E. Senkler, of St. Cloud has removed from the state, and therefore resigned his commission as a member of the Board. We take this opportunity to record our high appreciation of his scientific skill and accuracy, and of the great service which he did in organizing a system of meteorological reports as a department of our work. Ch. Gronvald, M. D., of Goodhue county was appointed his successor.

E. J. Davis, M. D., of Mankato has been appointed to succeed Dr. G. D. Winch, who at the expiration of his term of service declined re-appointment. Drs. D. W. Hand, V. Smith, and C. N. Hewitt have been re-appointed, and Dr. C. N. Hewitt has been re-elected Secretary.

The financial statement, appended, will show the expenditure of the appropriation of one thousand dollars, made for the work of 1876. The sum of seventy-four dollars and twenty-five cents has been reserved as a contingent fund, traveling and other expenses.

D. W. HAND,

V. SMITH,

CHAS. N. HEWITT,

FRANKLIN STAPLES,

W. H. LEONARD,

E. J. DAVIS,

CH. GRONVALD,

Members State Board of Health.



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THE INSPECTION OF THE PUBLIC INSTITUTIONS  
FOR 1876.

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## REPORT.

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This general report is made up from the special reports of committees of the board who have made personal visits and inspection of all the State institutions.

In justice to all we have to state that these visits are made without notice, and that our committees have always been received with courtesy, and every facility has been afforded to assist us in our work.

### THE HOSPITAL FOR THE INSANE.

We find this institution in excellent condition. The beautiful building has finally been finished, according to the original plan, and in most respects it reflects credit upon those who have had the matter in charge.

It is a source of surprise that a structure of its capacity, beauty and solidity could be erected at an expense of only \$486,000.

During the past season, much has been done towards beautifying the grounds, grading, tree planting, etc., and much more remains to be done. The farm attached seems to have been well conducted, but it is too small, only 384 acres in all, with less than 100 acres fit for cultivation; and we think it should, if possible, be enlarged.

The supply of water for the asylum is excellent in quality, but its source is such that it will always require great care in providing it in sufficient quantity. For laundry purposes, the rain water cisterns now in use are ample.

A thorough inspection of the hospital buildings and patients gave us assurance that the management was both strict and humane. The attendants were intelligent, and apparently kind to the patients. The patients themselves were orderly, and, as a rule, neat in appearance. The rooms, dormitories, and halls were clean, and the dining-rooms, closets, dishes, etc., were in good order. The beds were neat, and most of them were provided either with a hair or cotton mattress, placed on the top of one of

shucks, straw, or of woven wire. Only about eighty of the patients now sleep on straw beds. Each bed was supplied with two blankets and a counterpane, and the sheets and pillow-cases, we were informed, are changed positively once a week, and as much oftener as necessary. Most of the beds have a strip of carpet beside them, and look quite comfortable. Some of the rooms contain two beds where there should be only one, and some of the dormitories have ten beds where no more than seven should be allowed. The steam heating apparatus works well, and the buildings are all kept comfortably warm, but there is some fault about the ventilation. The air in most of the halls is not changed so often as it should be, and is close and oppressive. We would recommend a more free use of the blower, or fan, which now, for economy in fuel, is only used when the air becomes extraordinarily bad. The water-closets, although clean, and apparently closely watched, give out a strong odor, and are very troublesome. The drainage of the buildings and grounds is excellent. The basement which is under the whole structure, is dry and airy, and kept scrupulously clean. An ample air shaft furnishes, through this basement, the supply of fresh air to the halls and rooms above.

In a portion of the basement are found the laundry, drying and ironing rooms; the roomy kitchen, engine room, store rooms and a few work rooms. Of these last we think there should be more.

The old buildings in town have been repaired and put in order for the reception of patients, and already about forty have been sent there. When crowded these old buildings will hold about one hundred patients, but they are not suitable for hospital purposes, and are badly situated. They should be abandoned as soon as possible.

The management of the hospital appears economical, and it is doubtful if the current expense can in any way be reduced. The food for the patients seemed to be abundant, and the conveniences for preparing it ample.

During the summer a number of the patients were employed on the farm, and a few are regularly kept busy carrying wood for the engine, helping about the laundry, mending clothes, &c. Amusements have been provided to some extent, and in the female wards plants and flowers give occupation to a few of the patients; but what most painfully strikes a visitor to this as well as to most other asylums for the insane, is the fact of so many apparently able-bodied men and women sitting around with nothing to do.

We believe that very many of them are able, and should be systematically trained to work; and that a greater amount of liberty

might be allowed them without detriment to themselves or others. The great bulk of the insane are not sick. Of the 524 patients in confinement at this institution, Superintendent Bartlett informs us only 80 are now receiving medical treatment; and at the time of our visit, we only found three men and one woman in bed.

Neither are they according to the usual acceptation of the term, "mad men." They are simply human beings whose minds to some degree have lost that balance which is necessary to enable them to think and act for themselves. A few require restraint, and many need the careful watching of intelligent attendants; but it does seem a cruel thing to treat all the insane indiscriminately as felons or jail breakers, and for years reduce them to a state of enforced idleness.

Dr. Fraser, an English physician of long experience in the care of the insane, says: "Employment judiciously planned is not only a means of cure to the recent insane, but it benefits also the incurably insane; it mitigates their lot."

Dr. H. B. Wilbur, of New York, who has recently made a tour of inspection to the British insane hospitals, found that 72 per cent. of the insane were employed in useful labor. He says: "The out door life and exercise are there used as an important means in restoring bodily functions; in fact the medical officers do not wait until the patients are in good bodily condition before putting them to work, but set them to work as a means of securing a healthful physical condition."

The important result of this plan is that occupation bodily and mental, diminishes the excitement of the patients, produces quiet and contentment, and thus obviates the necessity for seclusion and mechanical restraint.

The greater amount of liberty necessary where the work system is carried on would not make it easier for either officials or attendants, but in the language of Dr. Wilbur: "The question is not what is most convenient or most agreeable to the officers of the institutions, but what most concerns first, the recovery, and then the welfare and comfort of the patients. All personal considerations must bend to these."

Dr. Wilbur speaks with emphatic favor of the system of open door treatment, witnessed by himself at several asylums in Scotland. In many wards he found all doors unlocked, the patients going in and out at their pleasure when not occupied.

His inquiries were particularly directed to the question of escapes and of suicides or assaults. And he found there was usually no inclination on the part of the insane to run away. He was

also assured by the manager of the asylum, where most liberty was allowed, that suicides had not increased, and that even among the insane criminals a large proportion could be safely allowed to handle tools.

As we stated in our report one year ago, the demand for increased accommodation for the insane is urgent. More buildings and more land suited for such labor as the insane may be capable of, must be provided.

The census reports show that insanity is increasing throughout the United States at a much greater rate than the increase of population. The census of 1860 shows the population to have been 31,443,321, with an insane population of 23,999; or one insane person in every 1,310 of the whole population. The census returns of 1870 show an increase of insanity of 55 per cent., while they show also that the general population of the states has increased only 22 per cent. From these figures of the census, and bringing the calculation up to the year 1865 inclusive, at the same rate of increase for both sane and insane population, we find the whole population to be 42,115,896, with an insane population of 44,148, or one insane person in every 953 of the whole population.

Even this is not so bad as in England, where, according to Dr. Wilkins, Commissioner of Lunacy for the State of California, they have one insane person to every 403 of the sane population.

Dr. Conrad, of Baltimore, Md., has collected some data from the census returns of 1870, showing that California exhibits the greatest proportion of insane to sane population of all the other States, being one in every 484. Massachusetts shows the next greatest proportionate number of insane.

The New England States, as a whole, far exceed the other group of States in their relative proportion of insane to sane population. The Northern States come next in order of proportion; the Western States third, and the Southern States show the smallest relative numbers of insane. Dr. Conrad concludes that "the increase of insanity has progressed rapidly throughout the country, notwithstanding the number of hospitals that have been built for the treatment of the insane, and notably so in greater proportion wherever the occupation of the people has departed most from agricultural pursuits."

From these facts he argues that while it is a just, humane and wise policy for every State to have one hospital, or more if necessary, for the curative treatment of its recent cases of insanity,

it is wholly unnecessary for them to build extensive and expensive hospitals for the incurable and chronic cases of insanity.

Dr. Conrad strongly urges the building of cottages for the accommodation of chronic cases, on the land attached to each State hospital already in operation. This was one of the four plans suggested in our last report as being practicable in this State.

We would now respectfully recommend that a commission be appointed to decide upon the location and character of the buildings required for the rapidly increasing insane population of this State.

There are now in the St. Peter hospital 524 patients; 289 males and 235 females. Of these the superintendent estimates over 400 to be incurable.

Admitted during the current year.....	249
Discharged.....	139
Died.....	42

#### INSTITUTION FOR THE DEAF AND DUMB AND BLIND.

##### *Statistics.*

Present during the year.....	123
Deaf-mutes.....	101
Blind.....	22
Present at date of inspection.....	97
Deaf-mutes.....	82
Blind.....	15

#### Applications on file for admission—

Deaf-mutes.....	10
Blind.....	None.

#### By the census of 1875 there are in the State—

Deaf-mutes, 263, of whom 31.1 per cent. in school.

Blind, 111, of whom 13.8 per cent. in school.

The demand for admission into the Deaf and Dumb Asylum is greater than the accommodation. There is no call at date for admission to the Blind Asylum, although it is hardly more than half filled.

This is all wrong but the fault is not with the Asylum. The managers are anxious for more scholars, because (and the fact is very important) the education of this class should begin at the

earliest practicable moment. Its difficulty increases much faster than the years of the pupil.

The ventilation and warming of the Deaf and Dumb Asylum is as last reported, fair, but not what it ought to be.

In the Blind Asylum the ventilation is not well under control, and an element of danger has been introduced into the interior of the main building against which, had this Board known of it, we should have thoroughly protested. The water closets have been located there, and when inspected there was a decided draft of air through the seats into the room, and of course into the air of the whole house. It will be impossible to prevent this entirely, and with the best apparatus and strictest care water closets in such a place can hardly be other than dangerous to the health of the inmates. We advise their removal. We are glad to report that the general sanitary condition of these schools is good. But we advise that more time and attention be given them at present, to the physical education of the children, especially of the Blind. This disability is more physical than mental, and oftener involves other parts of the body than the organs of sight, hearing and voice. Physical culture is therefore a very important part of their training. The danger is, on their part at least, that this training be rather to make up for the lost organs than to secure as far as possible the greatest improvement for the whole body. We advise the assiduous cultivation or a taste for out of door sports, and that abundance of time and encouragement be given for this purpose.

More good may be expected from such a course than from the use of any system of gymnastics or any other plan which divorces physical exercise from the pleasure which belongs to it, as a natural instinctive want of the child.

#### THE NORMAL SCHOOLS.

That at Winona is in fine condition. The ventilation is, however, very defective, and the reports of former years apply to its provision for water-closets and water supply.

Since this inspection, the principal writes that by utilizing the heat of the furnace in the lower hall, he has secured a better draft through the great ventilating shaft, and so improved the ventilation of the whole building.

The school at Mankato is in the same condition as at last report. Five large furnaces are found inadequate to the heating of this building, because of defective ventilation. We have suggested

changes which will materially improve the ventilation, and add to the comfort and health of the pupils, and to the safety of the building.

## STATE PRISON.

Total capacity.....	215
Males .....	212
Females.....	4
Number of convicts at date of inspection.....	165
Males .....	162
Females.....	3

And the number is increasing.

Of the convicts at present here, 31 are murderers, serving a life sentence. This number will probably be 35 in January, 1877.

No distinction of labor, discipline, or isolation is made between this class and the convicts committed for the shortest period and the least crime.

The sentence to "hard labor" means no more than to such labor as the contractors find the convict can do for their advantage.

The average age of the whole number of life convicts is 30.8 years. The youngest is 19 years, and the oldest 59. The average term of imprisonment of the other convicts is 2.7 years.

For two years and less.....	43.4 per cent.
For less than 5 years.....	80.3 per cent.
For less than 2 years.....	23.7 per cent.
For less than 1 year.....	11.4 per cent.

The average age of those serving a sentence less than 5 years is 28.1 years; youngest, 16; oldest, 63.

There is no school except a voluntary one, on Sunday, offered to such as choose to avail themselves of it. Some of the convicts read and write in their cells at night.

Under the judicious care of the warden, the library is increasing in value and variety, and the use of the books is freely offered to the prisoners who avail themselves of the opportunity to an encouraging extent.

The ventilation of the cells is as imperfect as ever; some of them are for this reason unfit for use.

The prison yard, when the necessary laundry building is erected, will be as full as it ought ever to be. The out-houses and drains connected therewith need thorough reconstruction; we have suggested their ventilation by connection with the great smoke stack of the shops.



Referring to previous reports, we repeat our recommendation that a new site be selected and a new prison be begun which shall be fully up to the most approved construction and organization.

In such a prison the warden should be (as in the present one, under existing arrangements, he cannot be,) responsible, not merely for the food, clothing and safety of the convicts, but for their labor and discipline. It will then be possible to make the prisons what they are intended to be, institutions not merely for punishment, but for reformation.

#### REFORM SCHOOL.

Many improvements have been made the past year; and the general condition of this institution is excellent.

The supply of water, however, is still deficient, and we urgently recommend that an additional source be provided. The proposed artesian well would probably give an abundant supply. The water now in use is not only insufficient, but is, at times, impure.

During the year, 31 pupils were admitted, 29 were discharged, and 2 escaped. Remaining under instruction, 139.

No death occurred during the year, and there has been no sickness of any consequence.

In view of the reported prevalence of small-pox in a neighboring state, most of the inmates have recently been revaccinated.

### FINANCIAL STATEMENT.

Appropriation for Board.....	\$1,000 00
Expended—	
Secretary's salary.....	\$500 00
Traveling expenses of Board.....	128 65
Postage, telegrams and express.....	24 50
Subscriptions for Sanitarian.....	18 00
Printing.....	19 00
For labor in experiments in heating apparatus.....	12 29
Thermometers.....	6 00
Extra compensation for preparing article on School House Warming and Ventilation.....	\$200 00
In hands of Secretary for reserve traveling and telegrams for Board.....	73 75
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	\$982 19