

IOWA
STATE HISTORICAL
SOCIETY.

FIFTEENTH BIENNIAL REPORT

OF THE

TRUSTEES, SUPERINTENDENT AND TREASURER

OF THE

Iowa Hospital for the Insane

AT

MOUNT PLEASANT,

FOR THE FISCAL YEARS 1888 AND 1889.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

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IOWA HOSPITAL FOR THE INSANE, }
MT. PLEASANT, IOWA, July 1, 1889. }

To his Excellency, WM. LARRABEE, Governor of the State of Iowa:

SIR—I have the honor herewith to transmit to you on behalf of the Board of Trustees of the Iowa Hospital for the Insane at Mt. Pleasant, their fifteenth biennial report, together with the report of the Superintendent and statistical and other exhibits, showing operations of the period and the present condition of the institution.

J. H. KULP,
Secretary.

OFFICERS OF THE HOSPITAL.

BOARD OF TRUSTEES.

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TREASURER.

C. V. ARNOLD,	-	-	-	-	-	Mt. Pleasant.
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H. A. GELMAN, M. D.,	-	-	-	-	Superintendent and Physician.
M. E. WITTE, M. D.,	-	-	-	-	First Assistant Physician.
F. P. PECK, M. D.,	-	-	-	-	Second Assistant Physician.
P. F. STRAUB, M. D.,	-	-	-	-	Third Assistant Physician.
E. N. NELSON,	-	-	-	-	Steward.
Mrs. F. V. COLE,	-	-	-	-	Matron.

TRUSTEES' REPORT.

IOWA HOSPITAL FOR THE INSANE,
Mt. Pleasant, July 1, 1889.

To the Hon. Wm. LARRABEE, Governor of Iowa:

We, the undersigned, Trustees of the Iowa Hospital for the Insane at Mt. Pleasant, respectfully submit this, our fifteenth biennial report in relation to said Hospital, together with the report of the Superintendent and exhibits accompanying the same, made to us at our annual meeting in July, 1889, which we also adopt as part of our report.

We have held regularly at the Hospital all meetings required by law, and made monthly visits to said Hospital, which was done by one or more members of the board at irregular periods and unannounced by such visitors; and at said times all the wards, rooms, buildings and out-buildings were visited and inspected, and the treatment and care of all the patients was diligently inquired into, and we find no cause of complaint, and are well satisfied with the present management of the Institution.

Since our last report the Twenty-second General Assembly appropriated the sum of \$20,000 for the building and equipping of a boiler-house, wash-house, and for the purchase of five new boilers, and \$8,000 for an industrial building, \$5,000 for extension and furnishing the kitchen, and \$15,000 to purchase land for the Institution. While the board has carefully inspected the buildings erected and in process of erection with said sums, and have examined the property and machinery purchased therewith, the expenditure of said sums of money has been superintended and directed by Supt. H. A. Gilman. We are fully satisfied with his management of the same, and are confident the outlay has been judiciously and carefully made, strictly in accordance with the act appropriating the same. A more detailed statement may be found in the Superintendent's report herewith submitted.

We would not make merchandise of the peoples generosity, but to deem the demands and requirements of this Institution, we deem it necessary to ask that there be provided a larger auditorium, which

will cost \$15,000; a cold storage-room to store butter, eggs, meats and vegetables, for \$7,000; a slaughter-house, \$2,500; ice-house, \$3,000; a house for flowers and plants, \$2,500; and to improve grounds and walks, \$1,000 per annum. All these are not only essential but extremely necessary. This is an Institution of nearly one thousand people; a city under one roof. It is more than that: it has nearly eight hundred sick and helpless people, with nearly one hundred and fifty physicians and nurses. The first is for their place of amusement and entertainment, and for their instruction. The last two to make their surroundings more cheerful and lighten the burden of their disease; and the other items are necessary to render their food more desirable and palatable. It is most difficult to prepare a diet that the sick will relish. It is poor to them when it is good to those in health. It must be the best. What would the thousands say whose friends and relatives are confined here, were they asked, should these expenditures be made for the benefit of the sick and afflicted? They would make but one answer: let it be done. Who is there so strong to be assured that insanity will never be his misfortune.

The State now has invested here about \$800,000 in lands, buildings and fixtures. This vast property is constantly in need of repairs, and especially that part that was first built. Our experience leads us to conclude that the interest of the State will be best served by an expenditure of \$5,000 per annum for repairs, and we therefore ask for that amount. It surely needs no argument to sustain our position. The Institution has been in existence thirty-four years, and unless an annual expenditure be made, the need of repairs would become serious and the necessities for them very great. It seems the wiser policy to us to make the repairs as they are needed, for "a stitch in time saves nine." The appropriation for this purpose for the past two years has been insufficient. We must have protection from fire. Too many human lives are at stake here to think otherwise. While everything built is constructed with reference to safety from fire, yet we should and must, if possible, be absolutely safe. It is our conviction, therefore, that there should be expended for fire pipes and apparatus the sum of \$5,000.

It is necessary to have a new engine to complete the work begun by the last General Assembly. By that body there were furnished boilers, boiler-house and engine-room. We now need the engine. The old one is too small and has seen too much service to meet our needs. We ask that a new engine be furnished at a cost of \$2,600.

It can easily be said that what we ask here smacks of extrava-

gance and should not be granted; but in making these estimates we have aimed to keep steadily in view the important question of economy of expenditure of public rates and taxes. We would not be wasteful, but it is not infrequently wasteful to deny an addition or improvement, especially to institutions of this character. Iowa's eleemosynary institutions are the chief monuments of the generosity of her people, and high above them all stand her institutions for the protection and care of the insane, the most unfortunate of all earth's children. While to all rational beings, in all conditions of life, there comes ambition, hope, joy and pleasure, though short it may be; yet to these unfortunates come no joy, no peace, no hope, but a fearful hallucination constantly hovers over them like an evil spirit boding no good.

While we have endeavored to truly represent the spirit of our people in the discharge of our duties, yet we are ready to confess that we have by no means fully comprehended the grave responsibility of our position; nor do we wholly feel the cords of tender sympathy that bind these unfortunates to all their Iowa homes. Torn from those relations and confined here for their good and the public's safety, does it not seem that the tender cord, the love of home, has been rudely broken?

To divert their minds, to dispel their hallucinations, to enthrone their reason, and to atone in part for banishing them from society, have the people directed, and have we and the faithful Superintendent endeavored to bring to their aid and comfort, all the appliances that the skill of man has devised. We make no apology; it is our duty.

Without words of flattery or in a spirit of boasting, we feel it but just to say that Supt. H. A. Gilman has performed the functions and duties of his office to our complete satisfaction, and has at all times been vigilant and watchful in protecting the interests of the State in all its vast expenditures, and has with never flagging zeal, consummate skill, and a keen and active conscience, attended to the wants and needs of the unfortunates, to the minutest detail.

Respectfully submitted.

D. A. HURST,
J. H. KULP,
G. W. ULLISON,
G. H. SPAHR,
S. KLEIN,

Trustees.

SUPERINTENDENT'S REPORT.

To the Trustees of the Iowa Hospital for the Insane at Mt. Pleasant, Iowa:

GENTLEMEN—Another period has rolled around and the time arrived when it becomes my duty to submit to you the fifteenth biennial report of this Hospital.

At the close of the last biennial period the new wing for females had just been completed affording us accomodation for two hundred female patients, and much needed relief from the crowded condition of former years. Since that time every bed has been filled and the demand for more room has become so great that we have already been compelled to place thirty-five cots in the female wards, rather than discharge incurables and return them to the county houses. The opening of the new Hospital at Clarinda, and the completion of the Insane Department for convicts at Anamosa last December, relieved the overcrowding in the male wards temporarily, but in a very brief space of time every vacancy will be occupied in that department. Although the number cared for during the period of two years previous to the date of the fourteenth biennial report was unprecedented, yet it has been eclipsed by the total number under care within the last two years, which has reached fourteen hundred and sixty.

Seven hundred and fifty-three patients have been admitted; four hundred and twenty-eight men, and three hundred and twenty-five women. Seven hundred and one have been discharged during the period just closed; five hundred and twelve men, and one hundred and eighty-nine women. Of this number two hundred and twenty-five—one hundred and thirty-six men, and eighty-nine women—recovered; one hundred and seventy-seven—one hundred and thirty-nine men, and thirty-eight women—were much improved; one hundred and ninety-two—one hundred and seventy-one men, and twenty-one women—were unimproved; one hundred and seven—sixty-six men, and forty-one women—died. Of the whole number of deaths, only twelve cases resulted from acute brain disease. Nearly all the remaining ninety-five were cases of chronic brain

disease. The per cent of deaths of the whole number treated was but seven and one third, while the per cent of recoveries of all admitted was about thirty.

EXPENDITURE OF APPROPRIATIONS.

Owing to the language of the laws making appropriations by the Twenty-first and Twenty-second General Assemblies, the amounts could not be drawn so as to complete the work previous to the close of each biennial period, consequently the balances were used during the succeeding months for the purposes specified by law. An itemized statement of the expenditure of all such balances, as well as the appropriations authorized by the Twenty-second General Assembly for repairs and building, appear in this report, as well as a statement of the manner of such expenditure.

REPAIR AND CONTINGENT FUND.

The small balance for this purpose appropriated by the Twenty-first General Assembly, and not used previous to the date of the last biennial report, was expended the following summer and autumn for repairs, and the amount appropriated by the Twenty-second General Assembly since that time, in relaying floors in wards, replastering, painting and decorating the same, repairing and repainting water-closets, placing double windows in wards, making wardrobes and bureaus for attendants' rooms and some heavy bedsteads for the more disturbed and violent patients, and repainting the roofs, so far as we have been able, of the main building and old wings. The amount appropriated has not been sufficient to keep so extensive a plant in proper repair without still greater loss ensuing.

BOILER HOUSE FUND.

The Twenty-second General Assembly appropriated the sum of \$20,000 for five new boilers, boiler house, engine room, coal house and wash house. Work was commenced upon this building as soon as possible after the approval of the bill granting the appropriation and the entire structure placed under roof, the five boilers placed in position, and the flue to the smoke stack and pipe and fan passage for fresh air supply completed before December 1, 1888.

The front of the building is 110 feet, and divided into three compartments. On the west side is the engine room for the necessary

engines and pumps, 70x35 feet, above this in the second story are apartments for engineers, firemen and laborers. The central division is but one story high, and in front of the main boiler room, and is used for a machine shop, 60x40 feet, where all of the repairs of iron work, pipe cutting and fitting, turning and drilling can be done by our own mechanics, which will be a great saving in the expense of this department. All the iron working machinery is to be placed here, also the hot water tank for general supply, exhaust tank, and fan for heating drying room adjoining. The third division of the front portion of this building is for wash room, mangle room and soap room in the first story, and the washing machines, mangle and large tanks for manufacturing soap are all located here. In front is the mangle room, 35x14 feet, in the centre the wash room, 41x35 feet, and in the rear the soap room, 35x15 feet, which will also be a receptacle for all the filthy clothing. From the centre of the machine shop, this plant extends south 210 feet, and just in the rear of the shop is the boiler house, 73x40 feet, and south of this the coal house, 72x40 feet. Requests for bids, with copies of specifications, were sent to three firms in this State, and to John Mohr & Sons, of Chicago, for the five new boilers. The latter being the lowest bidder, secured the contract and fulfilled it in a most satisfactory manner. The boilers are fifteen feet long and five feet in diameter, of Otis steel, in two sheets, with 48 four inch flues with steam domes and mud drums, and having full fronts. Each boiler is connected by a brick opening to the smoke flue, 9x6 feet, which extends in front of the boilers and connects with the smoke stack. The draft is very strong and guarantees much greater economy in heating, both by reason of perfect combustion and cheaper quality of coal (slack), which we are enabled to use to a great extent. In the coal house, and running along in front of the boilers, is a railroad track of twelve pound iron rail with cars from which the fuel is fed by the firemen. The new boilers were tested during the cold weather of last winter, and proved a success in every particular. The three horizontal boilers which were made and placed in the old boiler house for heating the new wings, have since been removed and placed beside these, making a battery of eight, which will insure all the necessary steam for heating the entire institution, and running the necessary machinery. The completion of this improvement is a source of great gratification to us, not only on account of better and more economical facilities in this department, but causes much relief from anxiety ever present, while we were compelled to depend

upon the old upright boilers, which had become worn out and dangerous to life by close proximity to main buildings, and by lack of capacity to perform our work, leaving the Hospital without proper heat and power in the coldest weather, when most required. The danger from fire has also been greatly diminished by this change, removing the principle fire entirely away from the Hospital buildings several hundred feet. This plant has been constructed with substantial stone foundation and base course, and the superstructure built of brick, manufactured on the premises. The roof is of corrugated steel, as well as the ceilings in the engine, mangle, soap and wash rooms. The boilers are encased in brick, fire brick being used along all fire surfaces.

FARM.

Among the wise provisions of the Twenty-second General Assembly was granting appropriations for additional land at two of the State Hospitals. This institution had about 340 acres, which had been purchased from time to time since its location. With this last appropriation, as you are aware, we have secured the farm formerly owned by Thomas Knox, located directly east of the Hospital grounds. This farm contains 240 acres of as good land as there is in the State and is provided with two never-failing springs of excellent water. By the purchase of this additional amount of land, we have been able to increase our herd of cows to over one hundred, thus furnishing our household an abundant supply of milk. We shall also be able to raise all the vegetables, corn, oats and grass we require for feed for stock and horses. Another advantage to the male patients is the additional facilities afforded for their employment out of doors, with plenty of fresh air and sunshine. There is a grove of forty acres connected with this farm, which affords an elegant location for our female patients to have picnics and exercise without molestation in the open air. Our Fourth of July celebration, for all our people, was held here and was much enjoyed.

INDUSTRIAL BUILDING.

The excavation for this building was commenced in May, and the foundation of stone with base course has been completed, and brick work is well advanced towards the second story.

We have been delayed considerably in the progress of this work, as by provision of law making the appropriation we could not

draw it from the State Treasury until after July 1, 1889, and all the material and labor thus far had to be provided for by individuals until such time as the amount could be paid us by the Auditor's warrant. This building is 75x50 feet and two stories high with connecting corridor of brick to west wing thirty feet long. The first story will be used for an ironing room, dressmaking room, sewing room, mending room and assorting room. It is the intention to have the clothing distributed through the basement on cars by way of the car track to the various wards after leaving the assorting room. The second story will be used for Matron's store room and for sleeping apartments for domestics; a bath room will be provided here, and water closets for both stories. We hope and expect to have this improvement completed before December 1st of this year.

KITCHEN.

As soon as the new ironing room can be completed, this improvement will be commenced, and will include the present market hall and the room now used for ironing, and will be a much needed change from the present contracted quarters and insufficient facilities.

IMPROVEMENTS AND REPAIRS REQUIRED DURING THE NEXT BIENNIAL PERIOD.

For the last four years, or during the sessions of the Twenty-first and Twenty-second General Assemblies an effort was made to secure a cold storage building of sufficient capacity for the necessities of this Hospital with its nearly one thousand inmates. As a question of good management, so far as the table service is concerned, this need cannot be emphasized too strongly. As an economical measure, I have no doubt that such a structure will pay for itself in three years. The importance of such a building is so great in my estimation, that although fully set forth in previous reports, I will enumerate briefly the benefit to be derived from it: We require for annual use about 25,000 pounds of butter, which should be purchased in June, when in best condition and cheapest, and being put in the cold storage, properly packed, will remain sweet and fresh the entire season. Now we are compelled to purchase the year around, sometimes at high prices, making the expense much greater, securing often poor quality, and some seasons the supply is very uncertain. The same fact applies to eggs, apples and other fruits, meats from the slaughter-house and fish. The plans and specifications for this improvement have been prepared, and

the estimated cost is \$7,000. I trust this much needed and most economical adjunct to our conveniences may no longer be delayed. The importance of enlarging the facilities for our Chapel services and amusements have also been presented to former legislatures and only delayed on account of the existence of the state debt. With this removed, we feel that no obstacle should be placed in the way of finishing and furnishing a place of sufficient capacity to accommodate our eight hundred patients, instead of only two hundred, which is the limit that can be crowded into the present room. On all occasions fully six hundred would attend our almost daily exercises. The extension necessary for this purpose is larger than previously anticipated, and together with the furnishing and appliances for all purposes will require \$15,000, which is a low estimate to complete the work. The Chapel must be arranged by erecting a large circular gallery in the rear, with pulpit, organ, and choir in front, and comfortably seated. The Amusement Hall should be fitted up with stage and fixtures for dramatic entertainments, lectures with magic lantern illustrations, concerts, dances and holiday exercises. Four or five evenings in the week are regularly occupied by such diversions, and the otherwise tedious hours made to pass pleasantly. Such diversion is often of more importance than drugs in effecting a cure by preventing too much introspection and changing the thoughts of our patients into more healthy channels, thereby allaying the irritation caused by brooding over fancied or actual troubles. It is not infrequent that we hear patients date the beginning of convalescence from attending some such means of diversion. Scarcely any hospital for the insane in the country is so poorly provided for in this respect as ours. Can the State of Iowa afford to do less in this important direction than others? The amount asked of the last legislature for improvements and repairs and contingent fund was reduced about one-third, so that there has been much important and necessary work left undone; such as renewing the main sewer, laying floors in four wards, painting all the window sash and frames outside of the main buildings and old wards, and the roofs not painted this season. Broken glass, plastering and wood work require constant and daily repair in a building of this magnitude, with its eight hundred insane people, and we cannot meet the necessary requirements in keeping up these repairs and the Hospital in good condition for less than \$5,000 per annum.

We have no ice house to store the large amount of ice required for medical and domestic purposes, although this has been requested frequently in former years. It is very important that we should

have plenty of this on hand during the entire year, and we should have storage for at least one thousand tons for all our purposes. We wish to build substantially of brick, as is the plan in all of the improvements we make here; a degree of permanence that will not require further expense for many years to come. For this building we have made a careful estimate and find the cost will be \$3,000.

A slaughter-house and piggery have been recommended in my previous reports. The nuisance of the present pen used for the purpose of a slaughter-house, on account of its being located too near the Hospital buildings, and its inadequacy, have been fully described in former reports. We have no shelter yet for our large herd of swine, and it is very necessary that they should be better cared for, especially in the winter and spring. A building for both these purposes, removed to a point far enough away from the buildings so that the air will not be vitiated by the rendering, on the bank of a small creek running through our grounds south of the Institution, can be constructed for \$2,500, which will afford the necessary relief, and provide the required accommodations for slaughtering and rendering, and shelter for hogs.

Our engine has been in use for twenty-five years or more, and was badly damaged by being in the fire which consumed the rear buildings thirteen years since, and it is not of sufficient power to comfortably perform all our work. We desire to purchase a Harris-Cordis engine which will be of such capacity, and the price quoted us at the manufactory is \$2,550. It will require fifty dollars to set it with proper foundations, consequently we ask for \$2,600 for this improvement. We have requested a small appropriation each session for improving our grounds, laying out walks for patients, summer-houses, and repairing and rearranging fences to airing courts in the rear of the new wings, but no appropriation has been made for this purpose for eight years. At least \$1,000 per annum should be appropriated for this purpose.

There has never been any outside protection against fire, and there should be a line of four inch pipe extending entirely around the building, with fire plugs at intervals of one hundred feet, with hose and hose cart for instantaneous attachment. Connection could then be made with the pipe supplying water from the water-works, and the pressure of the pumps there could be utilized promptly, as we are connected by telephone. I feel that the simple suggestion of this need is sufficient, on account of the increased safety to life and property which it will insure. It will require \$5,000 to extend the pipe around our entire plant, with necessary connections, fire

plugs, hose, hose carts, and also the renewal of old hose in the wards, which has become rotten with age.

We desire to construct a green-house for our patients' diversion in the winter season, and to give some of them employment. The most dreary portion of the residence in a hospital is during this season of the year, and while we use every effort to amuse and divert, still it is far from satisfactory. If we could build a conservatory of sufficient capacity so as to have plants and flowers in profusion before them daily, it would relieve to a great extent the gloom and tediousness of this season of the year, and give active exercise to quite a number, and furnish flowers for the sick in the wards as well. We request an appropriation of \$2,500 for this purpose.

STILL FURTHER ACCOMMODATION FOR THE INSANE REQUIRED.

At the date of the last report the new wing for females had just been completed, and to-day it is not only filled, but we have thirty-five cots which are placed in the rooms at night in order to accommodate the surplus unprovided with proper room, and the demand is constant for new admissions. This must be met by an appropriation by the next General Assembly sufficient to complete the Hospital at Clarinda, and it should be done early in the session, as the emergency requires that the work be carried forward there without delay. If a bill could be introduced and passed by February 1st, the department for females could be sufficiently advanced within a year to accommodate patients, but if delayed until April or May, before funds can be secured to go on with the work, the probabilities are that this much needed relief would not be assured before another year, on account of the intervening winter. In the mean time what are the other hospitals to do? There is but one course left, to discharge chronic cases and return them to the necessarily inadequate and improper provision made by counties. I desire to enter protest against this plan more emphatically, if possible, than ever before. I would plead with members of the incoming legislature, and ask them to make the matter a personal one, for there are none who are not liable to have this terrible affliction enter their own home and mark for its victim the wife, the sister or daughter. Somebody's friends have thus been stricken, and someone's heart aches in two or three thousand homes in this State, on account of the light of reason going out of some member of the household. Now that the State is out of debt, let no excuse stand in the way of proper care under State supervision of all the unfortunate insane

within its borders. As stated, the completion of the department for males at Clarinda, and the opening of the department for insane convicts at Anamosa, relieved us of one hundred and forty-seven men, but the vacancies are rapidly being filled, and before the legislature meets we shall have no room in the male division of this Hospital. There are in the State, as indicated by the best returns from counties we can secure, nearly or quite fifteen hundred insane outside of the three hospitals, and there is an accumulation of new cases probably amounting to five hundred per annum. If the recoveries and deaths amount to about three hundred per annum, as during the last two biennial periods, there will still remain an accumulation of two hundred each year, or four hundred each biennial period, to be cared for as long as they live. With these facts staring us in the face, certainly a sufficient appropriation should be made to complete the entire plant at Clarinda. In addition to this I would recommend as advisable the purchase of a farm of not less than six hundred and forty acres at some accessible point in Northwestern Iowa, and a sufficient appropriation to pay for it, secure plans for a building, and perhaps put in a portion of the foundation before another biennial period closes. In no other way can this State do its whole duty by its insane wards, and stand, as it should, the peer of any in its beneficence.

Considerable has been said by way of agitation of the question of prohibiting the emigration of defective classes from Europe, which has been a most fruitful cause of the increase of insane in this country and the largely increased number of insane patients in our hospitals. I have not seen any report of the passage of a law to remedy this, although several bills were introduced during the last session of congress. The importance of this matter should be impressed upon every congressman by his constituents.

HOSPITAL LIFE.

The world outside knows but little of the busy little world inside a hospital for the insane, and even the casual visitor gathers a very poor conception of the daily care required in attending to the necessary or imaginary wants of a household containing eight hundred patients. It may be interesting to rehearse to some extent the daily routine of hospital life.

The morning bell rings at six o'clock in the winter and half past five during the remainder of the year, which is a signal for all the employes of the Hospital to rise; the attendants in the several wards

after their patients are dressed, except those who are required by the direction of the physician to remain in bed, see that the morning ablutions are performed, assisting where the mental condition of the patient requires, and the toilet properly made. The morning meal is then served, and the special diet for sick and feeble persons distributed. Then the dining-room and daily ward work, such as sweeping, dusting and making beds is attended to and everything put in order as in a well regulated hotel or household. Those who desire, among the male patients, and all who are able are encouraged to do so, go out as details with attendants to work in the garden, on the farm, at the barns, stable, boiler-house, kitchen, bakery and as laborers when any building operations are going on, while the female patients visit the ironing room, dressmaking, sewing and mending rooms, and assist in domestic arrangements as required. All who are not employed in some useful way are required to walk out about the grounds to the adjoining groves or exercise in the fresh air and sunshine in the airing courts of the hospital. The physicians make their morning visits at nine o'clock through the wards, noting carefully the condition of each patient, and attending to their physical, moral and dietetic treatment, allaying the fears and suspicions of the deluded, by cheerful and hopeful words, encouraging those depressed, and by their influence soothing the disturbed and irritable. The necessary prescriptions are made after the visit of the physicians and put up by the apothecary in the dispensary, a record of each being kept in a book for that purpose. At twelve o'clock dinner is served, and after the dishes are washed and floors dusted at one o'clock, the same programme as during the morning is carried out. In addition to this, a carriage accommodating ten patients is kept constantly running for their benefit, taking out a load for an hour's drive, then returning for another party, thus giving as many as possible an opportunity each day. Others amuse themselves a portion of the time, especially if the weather is inclement, by playing the piano or organ on the wards, singing, reading, conversing and playing games of various kinds, while some devote much time to fancy work. The Superintendent is occupied by receiving and conversing with the friends of patients, attending to special correspondence, giving direction in regard to the different departments of work to the heads of each, visiting the wards each day when not otherwise fully occupied with one of the assistant physicians, alternating so far as practical, regularly, in order to keep each case and the treatment of it constantly in mind. The daily report of each ward and prescriptions are reviewed and

filed for permanent record. All of the arrangements and plans for buildings and improvements are made by him, and he is also superintendent of construction and repairs. The assistant physicians are required to keep a history of each patient while in the hospital in a case book as a permanent record, prepare statistics, inaugurate amusements and exercise for patients, dictate to stenographer daily and monthly reports of all cases who have a correspondent. This is mostly done in the afternoon of each day, and the wards are again visited by them especially to give attention to any who may be sick. At six o'clock tea is served, after which, during the summer season, many avail themselves of the opportunity to take strolls about the grounds for an hour. The patients in the convalescent wards retire at nine o'clock p. m., and earlier in the other wards, except when attending entertainments. The hospital is closed and door locked at ten o'clock, and all employees are expected to retire at that time.

AMUSEMENTS.

I think there has been a decided increase in the interest manifested by patients and employees during the last biennial period. During amusement season, which includes all except the summer months, we regularly have on Monday evenings the meeting of our literary society, with its varied programme of music, literary exercises and discussions. Tuesday evening is set apart for the weekly dances, and Thursday for exhibitions of pictures of cities, landscapes and public buildings of this and foreign countries by the aid of the oxy-hydrogen light, accompanied by a descriptive lecture by one of the physicians. Frequent dramatic entertainments on Wednesday or Friday evenings with interesting dramas and farces by home talent are much appreciated. The music for our dances is by our own orchestra, and the Cornet Band, as in former years, gives semi-weekly concerts, which are much enjoyed by all. Special programmes are arranged for all the holidays, and it would seem had been more thoroughly enjoyed during the last year or two than ever before. Commencing with Thanksgiving Day, with its feast of good things during the day, and entertainment in the evening, we celebrate the Christmas Festival, New Years and Washington's Birthday, Centennial Inauguration of Washington, May Day, Decoration Day, and July Fourth, or Independence Day. At Christmas time all friends outside are invited to send some token to be placed upon the Christmas Tree for each patient; if the patient has no friends, the contributions of outside parties who have become interested in our plan for making this as merry a season as possible for the patients, supplemented by

our own efforts, makes it possible for every patient in the Hospital to receive some memento of the occasion. Christmas Eve these gifts are all distributed, and usually the programme is introduced by a musical entertainment consisting of vocal and instrumental music. We are occasionally favored with concerts and other entertainments from outside, which are very much enjoyed by our household. The success of our entertainments has been due to the untiring efforts of Drs. Witte, Peck and Straub, seconded by the kind assistance of many employees and patients. With proper facilities this important department can be made much more efficient, and with the necessary accommodations, six hundred of our people can be entertained, instead of two hundred.

Our Chapel exercises have been continued each Sabbath at 3:00 p. m., the services being conducted by the pastors of the different churches in town, as follows: Methodist, Baptist, Catholic, Episcopalian, Presbyterian and Congregationalist. A large number of our patients are comforted by this service, and to all who attend it is a diversion. Each Sabbath morning we distribute through the wards the following religious papers: *Christian Union*, 36 copies; *Independent*, 28 copies; *Advance*, 28 copies; *Watchman*, 18 copies; *Northwestern Christian Advocate*, 34 copies; *Illustrated Christian Weekly*, 34 copies; *Good Cheer, Good Words, and Everybody's Paper*, each 150 copies.

FINANCES.

During the last biennial period we have drawn from the State Treasury but fourteen dollars per capita per month, except for the two quarters following the removal of the patients to Clarinda, when we increased the amount to fifteen dollars per capita to enable us to provide for the cost of transportation which was otherwise unprovided for, and also to cover the loss by so large a reduction in our numbers. With eight hundred patients the per capita cost will not be more than fourteen dollars per month, or about forty-six cents per day. This amount covers board, clothing, bedding, fuel, lights, medical treatment and salaries and wages of all the officers and employees. The amount appropriated for the boiler house and new boilers has been sufficient, and the appropriation used for that purpose. The amounts appropriated for the Industrial building and kitchen, will be sufficient to complete these improvements as intended, and the small balance for repairs remaining, we are saying until the latter part of the season to meet any contingency that may arise.

FARM.

In the year 1887, another drought cut short our crops. The season of 1888 was more favorable and we have been well supplied with garden vegetables, hay, potatoes, corn and oats, though not in sufficient quantity for the entire year. Now that we have added two hundred and forty acres to our farm, we hope to meet all demands in this direction. Appended is a table, showing the farm products raised in 1887 and 1888.

	1887.	1888.
Asparagus, dozen.....	2,250	352
Beans, string, bushel.....	140	100
Blackberries, quarts.....	3	340
Beans, Lima, bushel.....	3	2
Beets, bushel.....	108	290
Cabbage, heads.....	3,000	12,556
Calliflower, heads.....	165	215
Celery, bunches.....	2,500	5,400
Carrots, bushels.....	105	108
Cherries, quarts.....	1,720	3,080
Cucumbers, dozen.....	600	1,101
Corn, bushel.....	4,820	781
Corn, sweet, dozen ears.....	841	1,000
Comstables, shocks.....	1,835	122
Eggplant.....	7,000	11,906
Grapes, pounds.....	520	525
Hay, tons.....	26,201	23,968
Hogs, slaughtered, pounds.....	189	151
Horse-radish.....	6,108	7,190
Lard, pounds.....	17,800	16,700
Lettuce, heads.....	3,602,656	2,883,688
Milk, quarts.....	941	785
Oats, bushels.....	116	514
Onions, bushels.....	465	600
Parsley, bunches.....	250	225
Parsnips, bushel.....	60	61
Peas, bushel.....	30	35
Peppers, dozen.....	839	2,643
Potatoes, bushel.....	1,806	965
Radishes, dozen.....	416	1,465
Raspberries, quarts.....	543	959
Rhubarb, dozen.....	85	165
Sage, pounds.....	65	60
Salsify, bushel.....	61	66
Spinach, bushel.....	1,253	1,900
Squash, pounds.....	1,565	620
Strawberries, quarts.....	30	35
Straw, bales.....	49	145
Tomatoes, bushel.....	425	199
Tomatoes, green, bushel.....	49	145
Turnips, bushel.....	151	420

PATHOLOGICAL WORK.

We have continued the research in this department to as great an extent as possible considering the amount of other work which Dr. Peck, who still has charge of these investigations, has to attend to. He has shown decided advancement in the matter of preparing specimens for examination and has secured some additional facilities personally for the performance of better work.

The result of the investigation made here thus far, only emphasize our previous impressions of the importance of this department in every hospital for the insane, and the desire that the pathologist have more time to devote to laboratory work. We present below three cases giving history of case previous to admission and up to date of death, autopsy giving morbid condition as seen by the naked eye, and finally the microscopical examination and minute pathology of the brain. Four figures from microphotographs taken in our laboratory, very faithfully illustrate the pathological conditions as shown by the microscope.

ACUTE MANIA.

Case 7186 was admitted to the Hospital, January 1, 1889. Age 26, male. Single; brewer; native of Germany.

HISTORY BEFORE ADMISSION.

"This is the first attack; first came under observation, December 3, 1888. Disease is increasing, and is variable. He has an attack every day and wants to fight someone. Thinks that if he fights every day, his girl in Germany will be true to him. Daily attack may be epileptic. Masturbation assigned as cause."

HISTORY AFTER ADMISSION.

January 27, 1889. This man was brought here in a state of very much mental confusion and disorder. He was entirely under the subjection of delusions, and the deputy sheriff and assistant in bringing him here, had a great deal of trouble, owing to his excitement. On admission he sat about moody and sullen, and all at once would spring up and strike someone near him without cause or provocation. Since admission he has made daily attacks on various persons, and threatens to kill them, but since he is not strong or vigorous physically, no serious difficulty has been met with in controlling him without hurting him, or he others. Is at all times very morose and surly, reticent and suspicious. His bodily health is by no means good, although he looks strong and well nourished. He is sallow and bilious.

February 18, 1889. No change of any sort took place in patient's mental condition, and he was at all times much disordered. Very pugnacious and aggressive under influence of delusions. Lately he refused to eat, and he had to be fed by mechanical means. A week ago he was confined to bed with a severe attack of facial

erysipelas with much pyrexia and systemic implications, aggravated by maniacal excitement. This rapidly increased to furious delirium, closely resembling, if not identical, with that of acute delirious mania, or the grave delirium of some authors. He was intensely restless, noisy and incoherent, pitched and tossed about on bed continuously. Talked incessantly in a rambling disconnected manner, not being able to understand even the simplest matter said to him, or to frame a reply. His sentences were broken, with no cohesion of words, conveying no defined idea of any sort. In fact, his language was a rapid chattering of words with no connection. It was evident that there was present intense irritation of the cortical psycho-motor centers, of such a degree that their normal functional activity was disturbed and perverted in the extreme. Accompanying this intense cerebral disturbance were marked typhoid symptoms; dry brown tongue, anorexia and torpor of bowels. Sordes gathered on lips and teeth in spite of most careful nursing.

He was recovering from this, the inflammation having subsided, when pneumonia set in yesterday, involving the lower lobe of right lung, associated with a heart clot. Died at 9.20, P.M.

AUTOPSY.

Autopsy was held fifteen hours after death.

Brain There was found to be some passive congestion of the pia mater. No microscopical evidences of disease discernible upon examination of the brain. Portions from each region were retained for microscopical examination.

The usual method was followed which is to harden portions of each lobe of one hemisphere in alcohol, and similar portions from the opposite hemisphere in a solution of bichromate of potash, sulphate of copper and water (Erlitzki's Sol.) The pons and medulla being hardened in the latter solution.

Lungs Strong pleuritic adhesions were found over the entire surface of the right lung, and the pneumonic inflammation was found to be present throughout the lower lobe of the same.

Heart.—Antemortem clots were found in auricles and ventricles of the heart, also present in the arch of the aorta.

Kidneys.—The kidneys present evidences of chronic nephritis. Other organs seem to be normal.

MICROSCOPICAL EXAMINATION.

Frontal lobe of brain.—In the microscopical examination of the sections of the frontal lobe we find great dilatation of the perivascular spaces and engorgement of the vessels. The vessels are found to be filled to repletion; all the vessels are not thus filled, but present evidences of having been quite recently distended. Further examination reveals a diseased condition of the walls of the vessels known as fatty degeneration. Here we find only molecules of fat, while in some of the cases of chronic mania we find large, fat globules. From the microscopical examination of these sections we are led to believe that this is not the first time in which engorgement of the vessels has occurred in this case. The vessels are not sufficiently distended to produce the degree of dilatation of the perivascular spaces here observed. By transmitted light this dilatation can be observed without the aid of the microscope.

Parietal Lobes.—The dilatation of the perivascular spaces and consequent displacement of adjacent tissue, is very marked. A few extravasated corpuscles are observed. The same fatty degeneration of the walls of the vessels is observed that was noted in connection with the sections of the frontal lobe. The vessels are filled to repletion, but are not distended as in the case of acute delirious mania. There is no hypertrophy of the walls of the vessels.

The number of extravasated corpuscles indicate that there has been more vascular engorgement than is now to be seen. It is quite probable that the concurrent pneumonia caused a depletion of these cerebral vessels, and had there not been an extravasation of corpuscles this temporary depletion would probably have been marked by a remission of the morbid mental exaltation and excitement, and for the time being incoherency would have given place to coherency.

The perivascular spaces are dilated to even a greater extent than indicated at D, Fig. IV. The number of extravasated corpuscles is about the same as represented in this figure. Some of the perivascular spaces are dilated to about three times the size represented in Fig. IV, this in the cut being about the average. Owing to some former hyperæmia, as indicated above, resulting in impaired nutrition, there are microscopical evidences of atrophy, which in turn accounts, we think, for the continued dilatation of the perivascular spaces. Some of the nerve cells are atrophied to such an extent that a shriveled nucleus alone is visible. This also indicates that

this is not the first appearance of mental disease in this case, as indicated by the imperfect history of the case before admission.

Temporal Lobe.—Here we find the most marked evidences of organic change. In the superficial gray layers we find complete destruction of tissue, and in the adjacent tissue we find many extravasated blood corpuscles. These corpuscles are not only present in the perivascular spaces but throughout the tissue adjacent to the vessels. This disorganization seems to be of long standing, for there is little detritus, it having been absorbed, leaving quite a large cavity. This cavity measures about one-fourth inch in diameter.

Occipital Lobe.—A series of sections from the occipital lobe present the same pathological lesions as noted above. As in the temporal lobe, we find many extravasated blood corpuscles, more than in any other region, and probably for the reason given in the description of the sections of the occipital lobe in connection with case 7002.

Fig. IV. is taken from one of these sections, and by referring to it a very large circular open space (D) is seen in the center of the figure; this represents a cross section of a greatly dilated perivascular space. And in the right half of this space a cross section of the contained vessel is observed; blood corpuscles may be seen at both inner and outer surfaces of this vessel. At B, may be seen a longitudinal view of an engorged vessel, the perivascular space being occluded. At E, may be seen an axis cylinder and medullary substance. As noted above, some of the perivascular spaces are dilated to a much greater extent than represented in this cut.

Corpus Striatum and Optic Thalamus.—In the microscopical examinations of the sections of the basal ganglia we find great extravasation of blood corpuscles and some dilatation of the perivascular spaces. As a rule the extravasated corpuscles are arranged in rows along the spaces between bundles of fibres, and in many instances these spaces are formed by the accumulation of these corpuscles. The extent of the extravasation of the blood corpuscles almost equals that noted in connection with the same region in the case of acute delirious mania.

Pons Varolii.—Along the raphe of the pons may be seen some indications of a fatty degeneration, and some fat globules are also observed in this region. There is the same dilatation of the perivascular spaces, as noted above, in connection with the other regions of the encephalon.

The ganglion cells located in the sensory portion of the posterior

division of the pons are found to be in a pathological condition (many of them). The processes seem to be wanting as represented in Fig. 1. An occasional one seems to be swollen, as at D; and an occasional one presents a degenerated nucleus, as at A. These ganglion cells present a granular appearance, and are stained black by osmic acid, indicating that the granular appearance is due to fatty degeneration. At B, may be seen a blood vessel in about its normal condition, while at C, may be seen a greatly dilated perivascular space belonging to the same vessel. At E, may be seen complete degeneration and loss of tissue. There is considerable disintegration of tissue at this point. We find but little extravasation of corpuscles in the pons.

Medulla.—We find but little evidence of disease in the examination of the sections of the medulla. The ganglion cells seem to be in their normal condition, and there is no extravasation of blood corpuscles. There is, however, dilatation of some of the perivascular spaces, indicating that there had been a prolonged period of engorgement of the vessels.

Cerebellum.—We find here great engorgement of the vessels and extravasation of blood corpuscles, more especially of the white corpuscles.

Lungs.—Sections of the lower lobe of the right lung present all the microscopical evidences of gray hepatization, the third stage of pneumonia. The alveoli are filled with multitudes of round cells. There is an *anæmia* of the tissue, due to pressure upon the capillaries, thus to this and the extravasation of leucocytes is due the change from the condition of hyperæmia (red hepatization) to that of anæmia (gray hepatization). The pigment of the lungs mingled with the white blood corpuscles gives the "marbled" appearance as seen by the unaided eye.

To recapitulate.—the most essential pathological lesions, as observed through the microscope, are:

- a. Universal dilatation of the perivascular spaces.
- b. Extensive extravasation of blood corpuscles, more especially of the white, save in pons and medulla.
- c. Depletion of most of the cerebral vessels.
- d. Fatty degeneration of the ganglion cells of the pons, and complete destruction of tissue at one point (sensory portion of the posterior division).
- e. Destruction of tissue in temporal lobe.

Remarks.—a. The universal dilatation of the perivascular spaces indicates great hyperæmia at some time past.

b. The extensive extravasation of corpuscles shows that during the few days that he suffered from erysipelas of the face the symptoms of delirious mania were due to the same pathological conditions found in typical cases of this disease.

c. The depletion of the cerebral vessels is probably due to the inflammation of the right lung. This inflammatory condition serving the purpose of counter-irritant, relieving the vessels of the brain of the great engorgement that must have been present, as indicated by the extravasation of the blood corpuscles.

d. The extravasation of the blood corpuscles, and possibly the permanent dilatation of the perivascular spaces, accounts for the continued incoherency during the brief period that the cerebral vessels were depleted.

ACUTE DELIRIOUS MANIA.

Case 7002 is that of a female, aged 45. Married; native of Tennessee; no children. Admitted July 21, 1888.

"This is the first attack; began three weeks ago by foolish talking. Disease is increasing and there is constant derangement. No special subject. No cause assigned." No further positive history.

HISTORY AFTER ADMISSION.

August 13, 1888. This case on admission to the Hospital presented the well marked characteristics of acute delirious mania. She was extremely noisy, flighty and confused, and disordered in her cerebration. She kept up an incessant incoherent talking. She pitched and tossed about on her bed incessantly; ate poorly for a time, and it became necessary to feed her by mechanical means, but lately she has taken nourishment more freely. Sleep was induced with considerable difficulty, and it was not followed by any improvement, but on awakening would commence her muttering, chattering delirium.

Medication was of no avail, and seemed to have no effect on the course of the disease. Cold to head seemed to do good for a time. Profound disorder and disintegration of the central nervous system was also early evinced by the formation of large bedsores, which were not accounted for by pressure. Had abscess of cheek and lower lip, and parotid abscess of right side formed some days ago. Yesterday symptoms of cerebritis with perhaps meningeal implications supervened, while her strength and physical condition previous

to this had been kept up pretty well by assiduous care and nursing. She rapidly failed since yesterday. She died this morning at 1.00 A. M.

This lady was masculine in her physique, and her voice resembled that of a man.

AUTOPSY.

The autopsy was held seventeen hours after death. Nutrition good.

Brain. Considerable inflammation of the pia mater was observed; also inflammation of the surface of the brain, and possibly of the deeper portions also. The condition known as meningo-encephalitis was present. The posterior portions of the occipital lobe seem to be harder than normal, while the temporal seem much softer. Portions from each region of the brain, including pons and medulla were placed in the hardening solutions.

Lungs. Hypostatic congestion of both lungs posteriorly, more marked in the right than in the left; much fluid oozed out on section of the tissue.

Heart. Valves of heart and walls of large vessels leading from this organ much congested.

Mesentery. Passive congestion of the mesentery.

Liver. Gall bladder was adherent to the liver the entire length, and was located about four inches to the right of its normal position.

Ovaries were in their normal position and of normal appearance; rather small.

Uterus. Here we find an anomaly. On each side we find a Fallopian tube, and what appears to be a testicle. There is no uterus; the vagina terminating in a cul de sac. The testicles (?) are about one half the size of the ovaries, are attached to the Fallopian tubes, and are situated about half way between the ovaries and cul de sac.

MICROSCOPICAL EXAMINATION.

Frontal Lobe. In the microscopical examination of the sections from this region we find appearances that indicate during the last few weeks of life very great hyperæmia, the vessels all being filled to repletion and the perivascular spaces dilated; great extravasation of the blood corpuscles. In the sections of this region (frontal) the superficial gray layers contain but few extravasated corpuscles, but

in the deeper portion (subcortical), no field can be found free from them, but the corpuscles in each field as seen through the one-fifth objective, can be counted by the hundred. Many of the corpuscles are seen to be white blood corpuscles. The walls of the vessels are seen to be slightly hypertrophied, more so than we would expect in a disease of so short duration.

These hypertrophied walls are seen to contain migrating corpuscles, and the perivascular spaces when not filled by the distended vessels contain the same. Cross section of the vessels in the frontal region present the same appearance as the vessels of the pia mater surrounding the medulla, as represented by fig. 11, viz., migrating blood corpuscles and hypertrophy of the walls.

This extensive hyperæmic condition must necessarily result in morbid processes of nutrition. The delirium of the patient was in all probability due to the hyperæmia, and not to the stasis, for it is well known that violent delirium may soon pass away. A condition of stasis could not well subside so rapidly.

Some writers ascribe the hyperæmia to instability of the nerve cells, whereby the controlling influence of the vaso motor centers is overcome. The instability of the nerve cells is often brought about by the loss of sleep. In the Morrisonian lectures, Dr. J. Batty Tuke claims, that it is on the superior surface of the convolutions that we find the evidence of hyperæmia and its consequences. In the cases that have come under my own observation, I find that the hyperæmia is by no means limited to the surface of the convolutions, nor even to the deeper portions of the same, the vascular engorgement being general, and as noted above, in this case the extravasation of corpuscles is much more marked in the deeper tissue than in the superficial. The lesions viz., great vascular engorgement, hypertrophy of the walls of the vessels and dilatation of the perivascular spaces are as marked in the superficial layers as in the deeper portion of this, the frontal lobe. Lymphoid corpuscles are found in some of these sections, same as seen in margin of medulla, and represented in fig. 11, E.

The smallest of these measure about 1-3000 inch in diameter; the largest about 1-1500 inch.

In the vessels in which the stasis is most marked may be seen white corpuscles greatly in excess, and they are invariably in close proximity to the internal coat of the vessel. And in those vessels whose calibre measures about 1-3200 inch, nothing but the edges of the corpuscles can be seen so closely are they packed, their

surfaces coming together. Fluid could not be injected into these cerebral vessels to exceed in quantity the blood they now contain.

Ascending Frontal Convolution. In the sections of this convolution, the convolution containing the centres that preside over the movements of arm, face and (extreme lower portion of it) speech, we note especially very great extravasation of the corpuscles into the perivascular spaces. But little or no hypertrophy of the walls seems to be present. The stasis is very marked and the observer notices at once the great excess of white corpuscles. In some of the vessels it seems as if at least one-third of the contained corpuscles are white. In some of the vessels of this convolution the white corpuscles are so greatly in excess their edges are approximated and a row of them may be seen the whole length of the visible portion of the vessel, whereas in the same vessel filled to repletion, and the white corpuscles in their normal proportion, probably not more than three or four white corpuscles could be seen in one field.

Ascending Parietal Convolution. In the sections of this convolution, containing areas that preside over the movements of leg, hand and tongue, we find essentially the same lesions as noted in connection with the ascending frontal convolution, dilatation of the perivascular spaces, however being a little more marked in this convolution. Extravasation of corpuscles noticeable, but not as marked as in the frontal lobe.

Parietal Lobes. Here we find excessive engorgement, stasis, and much extravasation of corpuscles. The corpuscles do not seem to penetrate the tissue adjacent to the vessels as they do in the frontal lobe, but masses of them are seen just outside the walls of the vessels. These lobes are supposed to contain areas of sensations of touch, pain, and temperature.

Temporal Lobes. The same vascular engorgement is observed here that has been noted in connection with the other lobes. The extravasation of corpuscles is not as marked as in the parietal lobes; nor is the dilatation of the retaining canals as uniform as described above in connection with the other lobes. These lesions are noticed especially in the superior convolution, area of hearing, and in the inferior convolution, area of smell and taste.

Occipital Lobe. In the sections of this lobe we find dilatation of the perivascular spaces, and these dilated spaces are filled to the greatest extent possible with extravasated blood corpuscles. The vessels, whose diameter is about 1-1600 inch, contain white corpuscles greatly in excess of their normal proportion. In some of the

vessels it seems as if about half the corpuscles are white corpuscles. The stasis and extravasation is even more marked here in the occipital than in any of the other lobes. It does not seem possible for vascular engorgement to be greater than is here observed.

We know that pulmonary hypostasis develops, or may develop whenever a certain position of the body (lying on back) of the body is retained for a long time, and the vigor of the heart's action is diminished; it may be for the same reason that the stasis and consequent extravasation is most marked in this the occipital lobe.

The vascular engorgement in this case is also pretty well represented by Figure III., but it will be observed that this cut does not show the extravasated corpuscles to the extent, or the dilated perivascular spaces is found in connection with this case of acute delirious mania.

Corpus Striatum and Optic Thalamus. In the sections of the corpus striatum and optic thalamus the same vascular engorgement, dilated perivascular spaces and extravasation is observed that has been noted in connection with the several lobes of the brain. The escaped corpuscles are quite evenly distributed throughout the tissue. In one of the sections of the optic thalamus we find a greatly dilated vessel whose walls had lost their contractility before death, and now in its relaxed condition the wall is doubled in upon itself; in an outside of the wall are seen migrating corpuscles. The brain tissue about this vessel presents evidences of organic change, due in all probability to the great pressure from this over distended vessel.

Cerebellum. We find no lesions in the sections of the cerebellum. *Pons Verolii.* The most marked pathological manifestations are observed here in the central portion of the pons. In addition to the great hyperemia and dilatation of the perivascular spaces throughout the pons, we find in the central portion, the nerve fibers, nerve cells, and cells of neuroglia have become fatty and completely disintegrated, resulting in what is known as inflammatory softening.

Many of the corpuscles of Gluge are found here, corpuscles that are common in cerebral softening, and some other forms of fatty degeneration.*

Medulla. We find here less organic change than noted above in connection with the pons. There is much vascular engorgement and extravasation of corpuscles. The most prominent lesions in the medulla are vascular engorgement and dilatation of the pervas-

* Green's Pathology, p. 66.

cular spaces. Figure II. represents a section of the pia mater adjacent to the medulla, the margin of the medulla occupying the right hand portion of the figure. The lymphoid cells E, are seen along the surface of the medulla. The vessel D, is seen to be in a marked hypertrophied condition. Migrating corpuscles are seen on their way out through the walls of this and the other vessels. The extravasated corpuscles are seen in the upper portion of the figure at A and at B.

To recapitulate. In this case of acnte delirious mania we find engorgement of all and stasis of many of the vessels, in all the regions of the encephalon. Great dilation of the perivascular spaces, transudation of the corpuscles, most marked in the occipital lobe, and next in frontal lobe, and inflammatory softening involving the central portion of the pons varolii.

Lungs. Sections from the most dependent portion of the lungs present evidences of hypostatic pneumonia; * consisting of collapse, hyperemia and oedema of the lung tissue, resulting from weak inspiratory power, gravitation and feeble circulation. The aveoli being filled with exudative material.

Ovaries. The great portion of the ovaries consist of multilocular cysts, their contents are gelatinous, the walls of the cysts are lined—some of them—with cylindrical epithelium, projections of which resemble follicular glands.

Testicles. The bodies located between the ovaries and vagina on either side are found upon microscopical examination to present rudimentary elements of testicles, but as might be expected in an anomaly of this kind, the connective tissue elements have developed at the expense of the glandular.

In a rudimentary form may be seen the tunica vaginalis, lobes and what is supposed to be the spermatic artery and vein. Thus it is seen in this case there is to be found a blending of the sexes.

CHRONIC MANIA.

Case 5034. Admitted February 23, 1883.

There was no history of this case before his admission to the Hospital. He was entirely unknown to the county from which he came. He was a laborer, and during the brief period he was under observation his disease seemed to be increasing. It was said that he had no rational intervals, and had shown a disposition to injure others. The officer in charge said that he had been giving himself

* Pathology and Morbid Anatomy, Green's, p. 308.

no attention, and they had burned his clothing as a precautionary measure. Says he is 27 years old.

HISTORY AFTER ADMISSION.

February 28, 1883. This patient was admitted in a state of great mental excitement and confusion; language wild, rambling, and unintelligible; quite restless.

March 6, 1883. Patient sits about quietly during the day; mental confusion very great. No history is obtainable from him. He is very noisy at night.

April 23, 1883. Patient is quiet, has fair care of himself; language unintelligible; bodily health good, eats and sleeps well.

May 30, 1883. Nothing further in way of history obtainable, all that can be understood are the curses and oaths in which he indulges during one of his attacks of anger. His physical health is good.

June 22, 1883. Patient has been comparatively quiet and orderly. Is very morose and sullen.

April 3, 1883. Patient was distinctly excited and manifested a decided disposition to injure others two weeks ago. Was also noisy at night for some few nights. Was moody and morose during the day. Lost some flesh and did not eat well. Since then has been more quiet in his demeanor, and now sits around in his usual apathetic manner.

September 20, 1883. Patient has been quiet, but his mind is confused and disordered, and it is very rarely that he speaks so he can be understood. His physical health is good.

November 1, 1883. Quiet in demeanor; indifferent and careless.

December 14, 1883. Patient has changed in no manner; confused and disordered in thought.

November 13, 1884. No change of any note has taken place in this man's condition. His mind is much and constantly impaired, and his ideas are erotic and deluded. Assists in a little work occasionally.

December 17, 1885. Remains in an entirely stationary condition. Talks a good deal in a confused and rambling manner. Is somewhat irritable, and at times gets angry for no apparent reason. Scolds and swears at others, and also as it appears, at imaginary parties. Eats and sleeps very well.

December 23, 1886. No important change has taken place in the mental condition of this man since date of last record. This is a case of chronic mania with a little variation, and during period

stated he has been subject to maniacal exacerbations. His ideas are confused and are of an erotic character. He has been quiet and not troublesome in any way, and occasionally assists in work. His physical health was good up to last summer, when ascites developed, evidently depending upon hepatic degeneration. He was aspirated and a large quantity of fluid removed some three months ago. The abdominal dropsy has since been controlled by drastic cathartics. He is up and about without discomfort.

June 8, 1887. Patient became quite well nourished and comfortable after last date, and although much demented, he was usually in good spirits and feelings. The latter part of March he became feverish; lost in flesh rapidly. Diarrhœa set in, and he became more disordered mentally. Chiefly shown by hallucinations of all the special senses. Complained much of lightning and bad odors of intestinal flatus in his room. Often complained of "those fellows" bothering him. Said something choked him and gave him a bad taste in his mouth. Complained of so much noise, when in fact everything was quiet. He had ill-smelling gaseous eructations from the stomach and obstinate diarrhœa. A diagnosis of mesenteric and intestinal tuberculosis was made. At first lungs were free from deposits but they became involved secondarily, towards the latter part of his disease. He sank very low and death seemed imminent about the 20th ult., but he rallied temporarily under enemata of hydrogen sulphide and carbon dioxide, by Bergeron method. The relief was temporary only, and he sank rapidly the past few days. Died at 1:45 p.m.

ACTOPSY.

The *autopsy* was held twenty-one hours after death.

Tubercular deposits were found in both lungs. The deposits were very extensive; small cavities were also found.

The *peritoneum*, *mesentery* and walls of *intestines* were dotted with miliary tubercles. They were quite dark in color and it was thought the color was due to the absorption of the sulphuretted hydrogen.

The *liver* was found to be very small, with a strongly adherent capsule.

Color more yellow than it should be.

Kidneys were of normal shape, size and consistence.

Spleen normal.

Extensive ulcerations were found near the ileocecal valve.

Oval-shaped ulcers were found in the mucus coat of the ileum.

The *brain*, *pons* and *medulla* presented no microscopical evidence of disease.

PATHOLOGICAL REPORT.

Brain—Frontal lobes. We find in the microscopical examination of the sections of the frontal lobes hypertrophy of some of the vessel walls, and a dilatation of the retaining canals—perivascular spaces—a necessary sequence of prolonged hyperæmia. Also a tortuous condition of the vessels, which indicates that the vessels have undergone great congestion and overstraining. A very large share of mental disease is due to pathological conditions of the brain, whose most prominent characteristic is defective nutrition. A portion of the nutritive elements of the blood passes through the walls of the capillaries from within outwards, and the exhausted cell-fluid from without in; the greater the hypertrophy or diseased condition of the walls of the vessels the slower the exosmosis and endosmosis.

Here we find the coats of the arterial capillaries more thickened and degenerated than the venous, therefore a greater impediment is placed against the outflowing of the materials for nutrition and repair, than against the inflowing of the exhausted cell-fluid, and the foundation of atrophy is established.*

Thus, in this case of chronic mania, we find in addition to the vascular lesions above mentioned, atrophy of the nerve-cells in the cortical layers of the frontal lobe, (probable area of the higher mental faculties). The body of the cells being atrophied, the wall closely applied to the nucleus. In some of the cells the degenerative process is more advanced, nothing but the nucleus being discernable.

The section represented by Figure III. is taken from this region. By referring to this cut it will be seen that all the vessels are filled to repletion. In a section of normal brain tissue prepared in the same way, the vessels would be scarcely discernable. The vascular engorgement is universal. The perivascular spaces of most of the vessels are obliterated by the great engorgement, and where not, they contain transuded corpuscles. The capillaries are so well filled, the corpuscles may be seen so crowded together that their flat surfaces come in contact, and their edges only are to be seen. This hyperæmia, as will be seen, is not limited to any particular areas, but here in the frontal lobes we find the most marked evidences of stasis, as may be seen in Figure III.

* J. C. Bucknill, M. D., *Journ. of Insanity*, Vol. XIV., p. 182.

Parietal Lobe.—We find here about the same microscopical evidence of disease as noted above in connection with the frontal lobes, viz.: atrophy of the cells, dilated perivascular spaces, and tortuous condition of the vessels.

Occipital Lobe.—In addition to the lesions above mentioned, we find here many fat globules. A few were found in the sections of the frontal and parietal lobes. They are more numerous here than in any other region. Some detritus is observed, but little, however, in comparison to the number of fat globules. Some of these fat globules are found in the perivascular spaces. They are large, and the general microscopical appearance corresponds to fatty infiltration of other organs.

Temporal Lobes.—The lesions above described are also observed in the sections of the temporal lobes, being especially marked in lower portion of the lobe, that region supposed to be the area of smell and taste, accounting, as we think in this case, for the very singular derangement of these two special senses.

Pons Varolii.—In the section of the upper portion of the pons we find the large pyramidal cells are reduced to a simple mass of granules, without any branches being discernible, neither is there cell wall or nucleus remaining. The same tortuous condition of the vessels is observed here as noted in connection with the different lobes. Atrophy of the cells is also observed. The degenerated pyramidal cells are found, principally in the posterior portion of the pons. Fat globules and dilated perivascular spaces are also observed. The same pathological evidences are observed in the sections of the lower portion of the pons; the atrophy of the cells being most marked in the region of the processes cerebelli ad pontem.

Medulla.—We find here, in the sections of the medulla, many fat globules, no region being free from them, and in some regions they occur in masses. They are more numerous here in the medulla than in the pons or any portion of the cerebrum. The average size of these fat globules is about three and one-half times the size of white blood corpuscles. We find here also the same tortuous condition of the vessels and dilatation of the perivascular spaces, as mentioned above in connection with the pons Varolii and other portions of the encephalon.

Lungs.—Most of the alveolar spaces are filled with tubercular deposits. We find here no giant cells, cells most characteristic of tubercular lesions, but we find accumulations of epithelial cells

within the pulmonary alveoli. It is well known that while the smaller gray nodules contain the giant cells, the larger soft and gray, as in this instance, and most of the yellow ones, consist largely of the intra-alveolar accumulations.*

Liver.—We find here the condition known as fatty infiltration; nearly every cell is found to contain fat globules, most of these globules being large, no portion of the globules being free from fat. This fatty infiltration may in a measure be due to the imperfect oxygenation of the blood, owing to the extensive involvement of the lungs, or it may be that the fat which is normally used for the formation of the fatty acids and the cholestearine of the bile, is not used, and is, therefore, stored up in the hepatic cells.† The oxidation of the fat is interfered with in persons addicted to the excessive use of alcohol, and we are quite sure this has been an important factor in this case.

Mesentery.—Tubercular deposits are found throughout the mesentery; these deposits vary in size, and in section most of them are discernible with the unaided eye. The tubercles, when observed with observed with a one and one-half inch objective, appear homogeneous—cheesy like, and are surrounded by fibrous tissue and connective tissue elements. These miliary tubercles present a structure identical in every part, and near the periphery of the tubercles are seen round cells resembling leucocytes.

Intestines.—The mucus membrane is found to be very extensively infiltrated with round cells, in the midst of which the miliary tubercles are seen. The muscular coat is also infiltrated, these cells being less numerous than in the mucus membrane.

* Green's Pathology and Morbid Anatomy.

† Coit's Pathology.

DIFFERENTIAL LESIONS.

ACUTE MANIA.	ACUTE DELIRIOUS MANIA.	CHRONIC MANIA.
a. Cerebral vessels filled to repletion, but not markedly distended.	a. Cerebral vessels filled to repletion, and greatly distended.	a. Cerebral vessels filled to repletion, but not distended.
b. No extravasation of corpuscles unless some complication arises.	b. Extensive extravasation of blood corpuscles.	b. No extravasation of blood corpuscles.
c. But little or no stasis.	c. Stasis of capillaries marked.	c. Stasis of capillaries common.
d. Temporary depletion of vessels may occur.	d. Vessels not liable to be depleted temporarily.	d. Vessels may be temporarily depleted.
e. Foci of degeneration may be present.	e. Foci of degeneration likely to be present.	e. Foci of degeneration common.
f. Hypertrophy of walls of blood vessels very unusual.	f. Hypertrophy of walls of blood vessels occasionally.	f. Hypertrophy of walls of vessels common.
g. Perivascular spaces somewhat distended.	g. Perivascular spaces greatly distended, and the engorged vessels fill the dilated retaining canals.	g. Perivascular spaces distended, the contained vessels having regained about their normal calibre.
h. Cerebral vessels seldom in a tortuous condition.	h. Cerebral vessels usually tortuous.	h. Cerebral vessels tortuous.
i. Nerve cells not usually atrophied.	i. Nerve cells not usually atrophied.	i. Nerve cells usually atrophied.
j. Ganglion cells not usually degenerated.	j. Ganglion cells usually degenerated.	j. Ganglion cells usually degenerated.

METHOD OF PREPARATION OF TISSUE.

Hardening Solution. Sulphate of copper, bichromate of potash, and water for hardening brain and cord. Alcohol for all other organs.

Embedding. Brain and cord by celloidin method. All other organs by paraffin method.

Sectioning. Sections cut with Schanz microtome.

STATISTICAL.

The several tables appended to this report have been prepared with great care and much labor by Dr. Witte, and afford some valuable information.

MISS DIX.

During the biennial period the eminent philanthropist and devoted friend of the insane, Miss Dorothea L. Dix, has been called to her reward, and I feel it would be ingratitude not to

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mention her efforts in behalf of suffering humanity. For years she has travelled throughout this country, arousing the people to the importance of making proper provision for the insane, and by her efforts with individuals and legislatures of states, has undoubtedly wielded more influence than all other forces combined in this direction, and her labors were not confined to this country, or to this class. Mr. Lincoln recognizing her ability for organization, as well as indefatigability of purpose in execution and tenderness of heart called her to Washington during the early days of the war of the rebellion, and placed her in charge of the hospitals, in and around that city, and much of their success was due to her presence and kindly guiding spirit. Well do I remember when but a boy in the profession, she visited the hospital where I had but recently been appointed assistant physician, and her words of counsel and encouragement at that time have always been to me an inspiration. Certainly of her it can be said: "In as much as ye have done it unto one of the least of these, ye have done it unto Me."

ACKNOWLEDGMENTS.

The same medical staff and other subordinate officers remain as at the date of the fourteenth biennial report. For nearly eighteen months Dr. J. M. Aiken filled the position of Fourth Assistant Physician and Apothecary. Upon the opening of the new hospital at Clarinda, he was appointed First Assistant at that place, Mr. Lewis Harding has very satisfactorily filled the place of Apothecary during the past year. To all my co-laborers I owe a large share of whatever of success has attended my administration, and I desire to extend my heartfelt thanks to them, and all who have in any capacity faithfully performed their duty. While the monied consideration of a faithful attendant upon the unfortunate patient may not seem large, the consciousness of duty kindly and sympathetically performed towards these afflicted ones most assuredly brings a richer reward to each individual. There is no place where more good can be accomplished than in the conscientious performance of such service.

The following newspapers have been sent to the Hospital by the publishers, and have afforded great pleasure to the inmates. I desire to extend my thanks for each in their behalf.

Daily Register, Des Moines, Iowa.
 Daily Capitol, Des Moines, Iowa.
 Daily Evening Gazette, Burlington, Iowa.
 Semi-weekly Eagle, Vinton, Iowa.
 Republican, Montezuma, Iowa.
 Journal, Mt. Pleasant, Iowa.
 Free Press, Mt. Pleasant, Iowa.
 Herald, Mt. Pleasant, Iowa.
 Independent, Mt. Pleasant, Iowa.
 Advertiser, Creston, Iowa.
 Observer, De Witt, Iowa.
 The Homestead, Des Moines, Iowa.
 The Weekly Gazette, Cedar Rapids, Iowa.
 The Weekly Times, St. Cloud, Minnesota.
 The Deaf Mute Hawkeye, Council Bluffs, Iowa.
 Sunday Democrat Gazette, Davenport, Iowa.
 Times, Cedar Rapids, Iowa.
 Journal, Muscatine, Iowa.
 Wapsie Index, West Liberty, Iowa.
 The Post (German), Keokuk, Iowa.
 Gate City (Weekly), Keokuk, Iowa.
 Iowa Messenger, Davenport, Iowa.
 Index and Review, Kalamazoo, Michigan.
 Iowa State Press, Iowa City, Iowa.
 Citizen, Centerville, Iowa.
 German-American, Waterloo, Iowa.
 Sentinel, Sauk Rapids, Minnesota.
 Standard, Chicago, Illinois.
 The Democrat (German), Davenport, Iowa.
 The Guthrian, Guthrie Center, Iowa.
 Herald, Oskaloosa, Iowa.
 Herald, Clarinda, Iowa.
 Electric Light, Marshalltown, Iowa.
 National Democrat (German), Dubuque.

The officers and directors of the Henry County Fair have afforded our patients the gratification of attending the annual fair during the years 1887-8.

Miss Clara McFarland has afforded all much pleasure by contributing to the success of our entertainments by the aid of her highly cultured voice in concerts, and we have also been much entertained by Miss Bell Chanfant on the piano.

H. N. Crane has contributed a large amount of interesting reading matter for distribution in our wards.

To Shelby's New Golden Shows, Ferguson's Railroad Circus, and Andress Circus we are indebted for complimentary tickets for our patients.

The Mt. Pleasant Band has given us delightful serenades each year.

Miss Lina Loeb, the celebrated mind-reader, afforded our household much entertainment and amusement by giving one of her performances at the Hospital.

The following parties have contributed to our amusement fund and to aid the observance of our Christmas festivals in various ways: Henry Wesack, Marshall Field & Co., C. T. Raynolds & Co., J. L. Mott Iron Works, D. A. Stuart & Co., Ackers, Blackmar & Co., E. H. Kellogg & Co., William Blom, Thomas Kane & Co., The John Van Range Co., Fleshman & Co., J. S. McGregor, W. R. Jones, Pilgar Grocery Co., Sharp & Smith, Leedham & Bangh, Donahue, McCosh & Co., Dearborn Foundry Co., John Wallbank, Parke, Davis & Co., Hausemann, McComb & Dunn., H. Borsch, L. Ketcham & Bros., J. G. Koch, Brooks, Smith & Taylor Co., Peter Fawcett, C. Andre, Western Electric Co., P. Somers, Hyde & Southworth, Bicklin, Winzer & Co., Hon. S. T. Meservey, Penn & Holwick, Studebaker Bros., Jno. Blaul & Sons, Bramhall, Deane & Co., Willett & Pashley, G. W. S. Allen & Co., N. B. Andrews, Leonard & Ellis, C. W. Webster, Wycoff, Benedict & Seamans, L. Gould & Co., E. Baggott, G. W. Pitkin & Co., P. T. Twinting, John F. Leech, Orr & Lockett, Sheenman Bros., A. E. Person, Lyman H. Drake, Milwaukee Cement Co., Quincy White Lime Co., Fieldhouse & Dentcher, Barnard Bros. & Mercer, H. C. & C. Durand, George H. Spahr, Charles Snider, Goodyear Rubber Co., McGregor & Risser, H. E. Parks, S. W. Garvin, L. Ketcham, H. T. Bird, J. C. Ayer & Co.

Hon. John H. Gear has contributed valuable documents to the Hospital, and afforded encouragement in many ways.

Hon. John S. Woolson, by his presence and an oration July 4th, 1888, contributed largely to our entertainment on that occasion.

We are indebted to Eli Corwin, D. D., of Chicago, for a humorous lecture on the Sandwich Islands.

To Misses Maria Chambers and N. Stevens, of the Hammond-Murch Combination, we are indebted for a delightful concert.

The diversion and entertainment afforded by the kind efforts and liberality of these friends cannot be appreciated by those who have

not witnessed our exercises, and for days, before and after each, observed the anticipation and pleasure derived therefrom.

During the period just closed it has been with much regret that I have been called to part with Dr. P. W. Lewellen in his official capacity as a member of the board of trustees, on account of his appointment as Superintendent of the Hospital for the Insane at Clarinda. He was for six years a member, dating from about the time of my appointment here, and his cordial and intelligent support and warm-hearted encouragement are to me a great loss. I know that you, gentlemen, unite with me in wishing him God speed in his new field of labor with all of its cares and responsibilities.

I am constantly indebted to each of you for your unvarying kindness, sympathy and wise counsel. With thankfulness for the many favors enjoyed, and with the hope that He who has guided and blessed our efforts in former years, may continue to bestow upon this institution His favor, this report is

Respectfully submitted,

H. A. GILMAN,
Superintendent.

JULY 1, 1889.

TABLE I.

MOVEMENT OF THE POPULATION.

	Males.	Females.	Total.
Number at the beginning of the period.....	410	297	707
Admitted in the period.....	428	325	753
Total present in the period.....	838	622	1,460
Discharged—Recovered.....	136	80	216
Improved.....	139	38	177
Not improved.....	171	21	192
Died.....	66	41	107
Discharged in the period.....	312	180	501
Remaining at the end of the period.....	526	442	968
Average present during the period.....	380.64	337.57	748.21

TABLE II.

ADMISSIONS AND DISCHARGES FROM THE BEGINNING OF THE HOSPITAL.

	Males.	Females.	Total.
Admitted.....	4,359	3,110	7,468
Discharged—Recovered.....	1,265	929	2,194
Improved.....	781	529	1,310
Not improved.....	1,051	696	1,747
Died.....	806	541	1,347
Not insane.....	10	1	11
Total number discharged.....	3,923	2,696	6,619

TABLE III.

NUMBER AT EACH AGE WHEN ADMITTED IN THE PERIOD.

AGE.	WHEN ADMITTED.			WHEN ATTACKED.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Under 15	22	3	5	10	7	17
15 to 20	24	8	32	34	15	49
20 to 25	25	24	49	63	38	101
25 to 30	42	51	93	63	62	125
30 to 35	55	57	112	60	50	110
35 to 40	64	37	101	54	35	89
40 to 45	52	33	85	42	29	71
45 to 50	39	37	76	26	16	42
50 to 55	43	44	87	20	12	32
55 to 60	29	13	42	11	3	14
60 to 70	13	5	18	1	3	4
70 to 80	3	1	4	1	1	2
80 and over	5	2	7	3	1	4
Unknown	2	1	3	1	1	2
Total	428	325	753	428	325	753

TABLE IV.

NUMBER AT EACH AGE FROM BEGINNING OF HOSPITAL.

AGE.	WHEN ADMITTED.			WHEN ATTACKED.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Under 15	40	23	63	165	90	255
15 to 20	396	309	705	358	287	645
20 to 25	662	441	1,103	600	473	1,073
25 to 30	637	510	1,147	560	528	1,088
30 to 35	545	490	1,034	460	456	916
35 to 40	350	369	719	400	280	680
40 to 45	391	310	701	271	225	496
45 to 50	330	246	576	226	194	420
50 to 55	446	322	768	364	196	560
55 to 60	232	198	430	163	92	255
60 to 70	71	30	101	56	21	77
70 to 80	14	3	17	5	5	10
80 and over	81	40	121	66	26	92
Unknown	7	1	8	9	1	10
Not insane						
Total	4,290	3,119	7,409	4,230	3,119	7,349

TABLE No. V.

NATIVITY OF PATIENTS ADMITTED.

NATIVITY.	WITHIN THE PERIOD.			FROM THE BEGINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Maine	1	1	2	34	21	55
New Hampshire	1	1	2	16	11	27
Vermont	1	1	2	23	27	50
Massachusetts	1	1	2	45	24	69
Rhode Island	1	1	2	6	8	14
Connecticut	1	1	2	21	14	35
New York	20	16	36	232	181	413
New Jersey	1	1	2	3	13	16
Pennsylvania	1	1	2	45	32	77
Delaware	1	1	2	3	2	5
Maryland	1	1	2	3	16	19
Virginia	1	1	2	14	104	118
West Virginia	1	1	2	1	4	5
North Carolina	1	1	2	1	14	15
South Carolina	1	1	2	4	5	9
Georgia	1	1	2	1	1	2
Alabama	1	1	2	1	3	4
Mississippi	1	1	2	3	3	6
Louisiana	1	1	2	1	1	2
Arkansas	1	1	2	1	1	2
Ohio	51	44	95	615	503	1,118
Indiana	30	30	60	289	227	516
Illinois	19	51	70	180	122	302
Kentucky	6	8	14	88	59	147
Tennessee	5	5	10	43	30	73
Missouri	11	21	32	77	49	126
Michigan	4	4	8	12	15	27
Wisconsin	1	1	2	39	21	60
Iowa	116	81	197	705	504	1,209
Minnesota	4	1	5	1	1	2
Nebraska	1	1	2	1	3	4
Kansas	1	1	2	4	4	8
California	2	1	3	6	4	10
District of Columbia	1	1	2	1	1	2
New Mexico	1	1	2	1	1	2
Utah	1	1	2	1	1	2
Canada	1	1	2	55	32	87
Nova Scotia	1	1	2	5	5	10
New Brunswick	1	1	2	1	1	2
Great Britain	41	22	63	64	425	489
Germany	39	35	74	319	319	638
Austria	5	1	6	175	5	180
Netherlands	1	1	2	1	1	2
Denmark	4	3	7	23	18	41
Norway	2	2	4	31	22	53
Sweden	8	15	23	112	66	178
France	1	9	10	23	10	33
Portugal	1	1	2	1	1	2
Switzerland	1	1	2	1	1	2
Italy	2	2	4	2	20	22
Russia	1	1	2	1	1	2
Bahama	1	1	2	1	1	2
New South Wales	1	1	2	1	1	2
Hawaii	1	1	2	1	1	2
Unknown	1	1	2	9	76	85
Total	428	325	753	4,230	3,119	7,349

TABLE VI—CONTINUED.

RESIDENCE.	RESIDENCE.					
	IN THE PERIOD.			FROM THE BE- GINNING.		
	Male.	Female.	Total.	Male.	Female.	Total.
State at large.....	56	57	113	477	458	935
Adair county.....	1	1	2	18	16	34
Adams county.....	1	2	3	37	24	61
Allamakee county.....	1	1	2	15	20	35
Appanoose county.....	10	6	16	81	49	130
Audubon county.....	2	3	5	14	14	28
Benton county.....	1	1	2	17	19	36
Black Hawk county.....	14	13	27	14	27	41
Boscawen county.....	7	11	18	29	23	52
Buchanan county.....	1	1	2	7	5	12
Buena Vista county.....	1	1	2	4	1	5
Butler county.....	1	1	2	10	11	21
Bremont county.....	1	1	2	1	1	2
Calhoun county.....	1	1	2	1	1	2
Carroll county.....	1	1	2	9	9	18
Cass county.....	5	5	10	34	30	64
Cedar county.....	12	7	19	62	71	133
Cerro Gordo county.....	5	5	10	5	5	10
Cherokee county.....	1	1	2	2	1	3
Chickasaw county.....	1	1	2	8	7	15
Clarke county.....	3	1	4	40	19	59
Clay county.....	3	3	6	37	17	54
Clayton county.....	1	1	2	1	1	2
Clinton county.....	1	1	2	49	14	63
Crawford county.....	10	15	25	7	7	14
Dallas county.....	5	4	9	46	25	71
Davis county.....	5	8	13	76	48	124
Decatur county.....	6	3	9	37	30	67
Delaware county.....	1	1	2	14	14	28
Des Moines county.....	12	12	24	163	133	296
Dickinson county.....	2	1	3	2	1	3
Dubuque county.....	47	53	100	47	53	100
Emmet county.....	1	1	2	1	1	2
Fayette county.....	16	14	30	16	20	36
Floyd county.....	6	6	12	6	5	11
Franklin county.....	6	2	8	6	4	10
Fremont county.....	2	2	4	26	34	60
Greene county.....	1	1	2	13	21	34
Grundy county.....	1	1	2	8	2	10
Guthrie county.....	10	6	16	35	22	57
Hamilton county.....	1	1	2	1	6	7
Jones county.....	13	25	38	13	25	38
Jarvis county.....	1	1	2	9	16	25
Harrison county.....	6	3	9	7	42	49
Henry county.....	17	7	24	128	98	226
Howard county.....	1	1	2	1	1	2
Humboldt county.....	1	1	2	2	5	7
Iowa county.....	9	6	15	57	51	108
Jackson county.....	1	1	2	21	19	40
Jasper county.....	1	2	3	101	62	163
Jefferson county.....	8	7	15	104	90	194
Johnson county.....	13	7	20	123	96	219
Kossuth county.....	19	9	28	87	182	269
Kossuth county.....	1	1	2	1	1	2
Lee county.....	21	19	40	163	217	380
Linn county.....	1	1	2	29	50	79
Louisiana county.....	1	1	2	50	50	100
Lucas county.....	6	4	10	49	38	87
Lyon county.....	1	1	2	1	1	2

RESIDENCE.	RESIDENCE.					
	IN THE PERIOD.			FROM THE RE- GINNING.		
	Male.	Female.	Total.	Male.	Female.	Total.
Madison county.....	7	29	36	62	55	117
Mahaska county.....	15	21	36	101	66	167
Marion county.....	11	5	16	112	57	169
Marshall county.....	19	13	32	40	30	70
Miller county.....	6	4	10	27	17	44
Missouri county.....	1	1	2	1	1	2
Monona county.....	7	7	14	7	7	14
Monroe county.....	3	2	5	38	33	71
Montgomery county.....	2	2	4	42	36	78
Muscatine county.....	10	12	22	78	69	147
O'Brien county.....	1	1	2	74	50	124
Page county.....	1	1	2	2	2	4
Palo Alto county.....	1	1	2	2	2	4
Pemontas county.....	1	1	2	2	2	4
Polk county.....	30	34	64	166	107	273
Pottawattamie county.....	12	14	26	93	107	200
Poweshiek county.....	10	4	14	60	43	103
Ringgold county.....	10	4	14	17	20	37
Scott county.....	2	2	4	142	147	289
Shelby county.....	18	16	34	30	17	47
Story county.....	6	5	11	13	12	25
Tama county.....	1	1	2	6	13	19
Taylor county.....	6	13	19	27	6	33
Union county.....	7	7	14	42	27	69
Van Buren county.....	6	11	17	84	55	139
Vasquez county.....	11	14	25	115	94	209
Warren county.....	6	3	9	64	33	97
Washington county.....	9	3	12	96	60	156
Wayne county.....	4	5	9	37	38	75
Webster county.....	1	1	2	5	8	13
Winnebago county.....	1	1	2	1	1	2
Winneshek county.....	1	1	2	30	12	42
Woodbury county.....	1	1	2	6	3	9
Wright county.....	1	1	2	5	5	10
From elsewhere.....	1	1	2	70	52	122
Total.....	428	425	753	4230	3119	7349

TABLE VIII.

CIVIL CONDITION OF THOSE ADMITTED.

	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Single.....	294	81	375	2,180	692	3,172
Married.....	176	210	386	1,844	1,818	3,662
Widowed.....	18	26	44	143	261	404
Divorced.....	8	8	16	33	37	72
Unknown.....	.....	.....	.....	34	11	45
Total.....	498	325	753	4,239	3,129	7,358

TABLE IX.

HOW COMMITTED.

	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
By commissioners of insanity.....	418	325	743	3,359	2,274	5,707
By judges of district court.....	4	.....	4	21	.....	21
By clerk of circuit court.....	.....	.....	.....	65	45	111
By judges of county court.....	.....	.....	.....	36	26	62
By friends.....	.....	.....	.....	400	467	867
By Governor's order.....	.....	.....	.....	174	168	343
From elsewhere.....	.....	.....	.....	6	.....	6
Total.....	428	325	753	4,239	3,119	7,358

TABLE X.

HOW SUPPORTED, OF THOSE ADMITTED.

	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
By State alone.....	85	6	91	467	127	594
By counties.....	383	319	702	3,333	3,781	6,316
By friends.....	.....	.....	.....	179	169	348
By other States.....	.....	.....	.....	58	42	100
Total.....	498	325	753	4,239	3,119	7,358

TABLE XI.

SUPPOSED OR ASSUMED CAUSES OF INSANITY.

	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Abortion.....	.....	2	2	.....	6	6
Apoplexy.....	.....	.....	.....	5	.....	5
Blindness.....	.....	.....	.....	3	.....	3
Bodily injuries.....	9	.....	12	34	.....	41
Business anxieties.....	13	.....	14	84	.....	91
Change of life.....	.....	22	22	.....	90	90
Concussion.....	.....	.....	.....	4	.....	4
General ill health.....	14	24	38	257	354	611
Constitutional.....	4	3	7	70	363	433
Disappointed affection.....	.....	.....	.....	20	45	74
Disappointments.....	.....	.....	.....	21	21	42
Disease of brain.....	5	.....	13	13	.....	26
Disordered menstruation.....	.....	21	21	130	.....	130
Domestic trouble.....	6	13	19	88	156	244
Epilepsy.....	11	8	19	201	123	414
Excessive study.....	1	.....	1	14	.....	17
Exposure to cold.....	1	1	2	1	6	9
Fright.....	2	3	5	14	33	47
Grief, loss of friends, &c.....	8	21	29	32	118	150
Hemiplegia.....	.....	.....	.....	.....	6	6
Heredity.....	14	11	25	153	164	317
Hysteria.....	.....	.....	.....	.....	25	25
Ill treatment.....	.....	.....	.....	29	158	187
Injuries of head.....	.....	.....	.....	34	.....	34
Intemperance.....	22	1	23	185	.....	208
Jealousy.....	.....	.....	.....	.....	10	10
Lactation protracted.....	1	.....	1	.....	.....	.....

TABLE XI—CONTINUED.

	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Military service.....				30		30
Loss of property.....	5		5	35	9	44
Loss of sleep.....				5	1	6
Masturbation.....	41		41	389	9	398
Menses.....		1	1	2	3	5
Menstrual disease.....				1	2	3
No satisfactory cause assigned.....	100	163	263	1,405	988	2,393
Nostalgia.....				3	6	9
Not insane.....				9	1	10
Novel reading.....				1	1	2
Opium habit.....				4	4	8
Original defect.....	1	1	2	45	23	68
Over exertion.....	11	4	15	114	48	162
Paralysis.....				9	4	13
Pecuniary anxiety.....				2	7	9
Political excitement.....				4		4
Poverty, hardships.....	1		1	20		20
Puerperal condition.....				338	29	367
Religious excitement.....	10	12	22	111	78	189
Scarlet fever.....				2	2	4
Scrofula.....				1		1
Senility.....	4	1	5	31	12	43
Spermatorrhoea.....				1		1
Spiritualism.....				7	7	14
sunstroke.....	28	4	32	105	10	115
Surgical operation.....				1		1
syphilis.....				43	8	51
Typhoid fever.....	2	2	4	20	17	37
Use of tobacco.....				1		1
Uterine disease.....		21	21		83	83
Vaccination.....				2		2
Veneral excesses.....	3		3	14	1	15
War excitement.....				3		3
Total.....	428	325	753	4,230	3,119	7,349

TABLE XII.

FORM OF DISEASE OF THOSE ADMITTED.

FORM OF DISEASE.	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Mania acute.....	100	91	191	1,570	1,350	2,920
Mania chronic.....	90	72	162	1,171	898	2,069
Melancholia acute.....	96	83	179	729	431	1,160
Melancholia chronic.....	81	66	147	594	250	844
Dementia acute.....	4		4	40	8	48
Dementia chronic.....	18	10	28	252	102	354
General paresis.....	21	3	24	51	4	55
Not insane.....				9	1	10
Total.....	428	325	753	4,230	3,119	7,349

TABLE XIII.

COMPLICATIONS OF THOSE ADMITTED.

COMPLICATIONS.	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Epileptic.....	22	12	34	257	140	397
Apoplectic.....				12	6	18
Paralytic.....	4	4	8	58	13	71
Suicidal.....	44	35	79	271	292	563
Homocidal.....	38	8	46	123	36	159
Herculey.....	77	74	151	463	504	967
Chorea.....				1	4	5
None.....	252	100	352	2,946	2,112	5,058
Not insane.....				9	1	10
Total.....	428	325	753	4,230	3,119	7,349

TABLE XIV.

NUMBER OF THE ATTACK IN THOSE ADMITTED.

NUMBER.	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
First.....	339	302	641	3,043	2,222	5,265
Second.....	50	30	80	456	419	875
Third.....	16	18	34	98	67	165
Fourth.....	2	5	7	29	21	50
Fifth.....		2	2	6	19	25
Sixth.....				1	1	2
Seventh.....				1		1
Several.....	12	8	20	211	184	395
Unknown.....	133	3	136	109	570	679
Not insane.....				9	1	10
Total.....	428	325	753	4,230	3,119	7,349

TABLE XV.

DURATION OF INSANITY BEFORE ENTRANCE OF THOSE ADMITTED.

	IN THE PERIOD.			FROM THE BEGINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Less than 1 month	86	56	142	720	466	1,186
1 to 3 months	56	41	97	672	354	1,026
3 to 6 months	36	35	71	400	370	770
6 to 9 months	19	30	49	271	255	526
9 to 12 months	7	5	12	88	88	176
12 to 18 months	31	23	54	270	207	477
18 months to 2 years	10	3	13	82	74	156
2 to 3 years	34	26	60	266	193	459
3 to 4 years	21	15	36	161	120	281
4 to 5 years	20	15	35	122	93	215
5 to 10 years	37	35	72	217	167	384
10 to 15 years	12	17	29	118	74	192
15 to 20 years	5	5	10	62	36	98
20 to 25 years	4	4	8	26	17	43
25 to 30 years	3	3	6	11	7	18
Over 30 years	2	4	6	15	10	25
Unknown	47	12	59	716	343	1,059
Not insane				9	1	10
Total	428	325	753	4,330	3,110	7,440

TABLE XVI.

RECOVERED OF THOSE ATTACKED AT THE SEVERAL AGES, FROM THE BEGINNING.

AGE WHEN ADMITTED.	NUMBER.			PER CENT RECOVERED OF THOSE ATTACKED AT EACH AGE.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 15	16	20	36	6.70	11.11	10.39
15 to 20	154	121	275	45.56	42.16	44.80
20 to 25	241	185	426	39.41	41.25	40.29
25 to 30	191	173	364	33.51	27.77	33.37
30 to 35	147	126	273	31.96	27.63	29.81
35 to 40	116	88	204	26.00	30.43	28.21
40 to 45	88	65	153	22.46	28.88	26.84
45 to 50	64	42	106	28.07	21.13	25.12
50 to 60	45	45	90	32.56	23.05	27.80
60 to 70	34	9	43	29.86	14.51	19.12
70 to 80	9	3	12	14.73	14.29	14.63
Unknown	106	52	158	15.94	17.51	16.42
Total	1,965	1,620	3,585			

TABLE XVII.

RECOVERED AFTER VARIOUS DURATIONS OF THE DISEASE FROM THE BEGINNING.

	NUMBER.			PER CENT RECOVERED AFTER EACH PERIOD OF DURATION.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 month	367	226	593	54.36	46.13	52.41
1 to 3 months	313	274	587	46.58	50.26	47.90
3 to 6 months	179	150	329	44.25	40.54	42.72
6 to 9 months	96	83	182	30.52	32.53	31.60
9 to 12 months	26	31	57	20.53	35.23	32.65
12 to 18 months	52	46	98	16.26	23.22	20.54
18 to 24 months	8	11	19	0.73	14.86	12.11
2 to 3 years	17	17	34	7.30	8.81	7.92
3 to 4 years	14	7	21	8.00	5.83	7.47
4 to 5 years	5	3	8	4.00	3.53	3.72
5 to 10 years	0	0	0	3.58	4.10	3.83
Over 10 years	4	1	5	1.72	0.65	1.38
Unknown	142	71	213	19.87	20.70	20.21
Total	1,265	920	2,185			

TABLE XVIII.

DURATION OF TREATMENT OF THOSE RECOVERED.

	IN THE PERIOD.			FROM THE BEGINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 month	4	5	9	36	5	41
1 to 2 months	7	7	14	73	27	100
2 to 3 months	12	17	29	120	56	176
3 to 6 months	47	5	52	477	282	699
6 to 9 months	21	20	41	253	213	466
9 to 12 months	20	15	35	140	105	254
12 to 18 months	15	9	24	121	126	247
18 to 24 months	4	6	10	43	33	76
2 to 3 years	3	4	7	36	42	78
3 to 4 years	1	1	2	8	8	16
4 to 5 years	1	1	2	1	4	5
Over 5 years	1	1	2	5	3	8
Total	136	89	225	1,955	1,620	3,575

TABLE XIX.

WHOLE DURATION OF DISEASE OF THOSE RECOVERED.

	IN THE PERIOD.			FROM THE BE- GINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Under 1 month.....	36	6	42	36	6	42
1 to 2 months.....	14	21	35	61	33	94
2 to 3 months.....	26	10	36	280	161	441
3 to 6 months.....	14	21	35	232	300	532
6 to 9 months.....	17	21	38	168	127	295
9 to 12 months.....	17	19	36	164	150	314
12 to 18 months.....	11	4	15	76	70	146
18 to 24 months.....	10	2	12	33	35	68
2 to 3 years.....	8	3	11	22	36	58
3 to 4 years.....	1	1	2	4	8	12
4 to 5 years.....	4	3	7	21	14	35
Over 5 years.....	10	3	13	137	64	201
Unknown.....						
Total.....	126	80	206	1,263	929	2,194

TABLE XX.

FORM OF DISEASE OF THOSE RECOVERED FROM THE BEGINNING.

FORM OF DISEASE.	NUMBER RECOV- ERED.			PER CENT RECOV- ERED OF EACH FORM ADMITTED.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Mania, acute.....	847	600	1,447	53.63	47.88	51.00
Mania, chronic.....	79	53	132	6.19	5.30	6.07
Melancholia, acute.....	298	241	539	40.88	39.96	40.45
Melancholia, chronic.....	34	25	59	11.18	12.80	11.91
Dementia, acute.....	3	3	6	17.50	37.20	30.83
Total.....	1,265	929	2,194			

TABLE XXI.

CAUSES OF DISEASE OF THOSE RECOVERED FROM THE BEGINNING.

CAUSES.	NUMBER RECOV- ERED.			PER CENT RECOV- ERED OF EACH CLASS ADMITTED.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Abortion.....	5	2	7	33.33	33.33	33.33
General ill health.....	84	141	225	20.20	30.87	25.52
Heredity.....	65	62	127	42.48	37.80	40.06
Disordered menstruation.....	50	50	100	26.00	26.00	26.00
Religious excitement.....	31	22	53	40.00	41.63	43.07
Business anxiety.....	30	3	33	35.71	42.86	38.26
Grief, etc.....	8	34	42	25.00	28.81	28.00
Masturbation.....	95	95	190	23.22	23.22	23.22
Novel reading.....	1	1	2	100.00	100.00	100.00
Domestic trouble.....	31	42	73	35.22	30.00	32.92
Pauperial condition.....	17	145	162	42.00	42.00	42.00
Military service.....	17	17	34	66.67	66.67	66.67
Pecuniary anxiety.....	12	4	16	30.00	37.14	34.04
Disappointed affection.....	11	13	24	37.50	28.88	32.43
Spermatorrhoea.....	1	1	2	100.00	100.00	100.00
Over exertion.....	58	14	72	50.87	29.16	44.00
War excitement.....	4	4	8	100.00	100.00	100.00
Loss of sleep.....	1	1	2	33.33	33.33	33.33
Excessive study.....	6	1	7	35.71	33.33	35.39
Intemperance.....	154	15	169	30.00	44.11	39.29
Loss of property.....	11	2	13	28.20	22.22	27.69
Typhoid fever.....	12	17	29	40.00	29.41	36.16
Opium habit.....	1	1	2	50.00	50.00	50.00
Menigitis.....	1	1	2	100.00	100.00	100.00
Scanty.....	2	1	3	6.45	6.25	6.38
Hysteria.....	1	1	2	50.00	50.00	50.00
Epilepsy.....	7	4	11	3.40	3.29	3.25
Injury to head.....	44	2	46	28.00	18.18	27.22
Vaccination.....	1	1	2	100.00	100.00	100.00
Excessive use of tobacco.....	1	1	2	100.00	100.00	100.00
Constitutional.....	43	24	67	67.43	48.00	55.82
Typhoid disease.....	23	23	46	27.71	27.71	27.71
Spiritualism.....	3	1	4	45.86	14.29	29.37
Fright.....	6	11	17	42.90	33.33	38.17
Disappointment.....	6	8	14	28.57	28.00	28.33
Change of life.....	23	23	46	25.53	25.53	25.53
Ill treatment.....	1	8	9	25.00	30.30	27.61
Original defect.....	1	6	7	11.11	4.00	8.37
Political excitement.....	2	2	4	50.00	50.00	50.00
Exposure to cold.....	3	1	4	50.00	33.33	44.44
Stroke.....	33	32	65	31.43	28.00	29.69
Syphilis.....	9	1	10	30.00	16.67	23.33
Bodily injuries.....	9	5	14	23.53	14.43	19.71
Lactation protracted.....	1	1	2	10.00	10.00	10.00
Paralysis.....	1	1	2	50.00	50.00	50.00
Morales.....	1	1	2	50.00	50.00	50.00
Poverty, hardships.....	7	14	21	35.00	17.07	22.38
Blindness.....	1	1	2	33.33	33.33	33.33
Nystagmus.....	1	4	5	33.33	66.67	55.55
Jealousy.....	1	1	2	33.33	33.33	33.33
Concussion.....	1	1	2	25.00	25.00	25.00
Disease of brain.....	1	4	5	33.33	66.67	55.55
Venereal excesses.....	1	8	9	100.00	100.00	100.00
No satisfactory cause assigned.....	419	228	647	28.02	23.07	26.05
Total.....	1,265	929	2,194			

TABLE No. XXIII.

DEATHS AND THE CAUSES.

CAUSES.	IN THE PERIOD.			FROM THE BEGINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Chronic insanity.....	8	8	16	133	121	254
Acute mania.....	1	4	5	53	46	99
Typho mania.....	1	1	2	14	7	21
Acute delirious mania.....	1	1	2	17	18	35
Acute melancholia.....	1	1	2	23	17	40
Cerebral softening.....	1	1	2	4	4	8
Cerebral congestion.....	1	1	2	1	1	2
Organic disease of brain.....	1	1	2	8	3	11
General paralysis.....	15	5	20	57	10	67
Apoplexy.....	3	3	6	51	30	81
Hemiplegia.....	1	1	2	3	1	4
Epilepsy.....	4	4	8	129	53	182
Sulcus.....	1	1	2	16	12	28
Consumption.....	5	6	11	107	123	230
Pulmonary congestion.....	1	1	2	2	4	6
Pulmonary gangrene.....	1	1	2	5	3	8
Pulmonary abscess.....	2	2	4	3	2	5
Bronchitis.....	1	1	2	1	1	2
Typhoid fever.....	1	1	2	2	1	3
Intermittent fever.....	1	1	2	1	1	2
Convulsive fever.....	1	1	2	1	1	2
Dysentery and Diarrhoea.....	1	1	2	28	26	54
Cholera morbus.....	1	1	2	1	1	2
Chronic gastritis.....	1	1	2	2	3	5
Chronic hepatic disease.....	1	1	2	2	2	4
Bronchiectasis.....	1	1	2	1	1	2
Strangulated hernia.....	1	1	2	1	1	2
Peritonitis.....	1	1	2	1	1	2
Diabetes.....	1	1	2	1	1	2
Dropsy.....	1	1	2	1	1	2
Heart disease.....	1	1	2	5	10	15
Endo-pericarditis.....	1	1	2	1	1	2
Uterine hemorrhage.....	1	1	2	1	1	2
Uterine disease.....	1	1	2	1	1	2
Erysipelas.....	1	1	2	7	3	10
Scrophulous.....	1	1	2	13	13	26
Old age.....	1	1	2	6	9	15
Accident.....	1	1	2	1	1	2
Enteritis.....	1	1	2	1	1	2
Scrophulous.....	1	1	2	1	1	2
Pneumonia.....	1	1	2	6	7	13
Paraplegia.....	1	1	2	2	2	4
Cancer.....	1	1	2	1	1	2
Paralysis.....	1	1	2	1	1	2
Meningitis.....	1	1	2	6	2	8
Pleurisy.....	1	1	2	1	1	2
Anæmæmia.....	1	1	2	1	1	2
Embolism.....	1	1	2	1	1	2
Injuries received before admission.....	1	1	2	1	1	2
Rubella.....	1	1	2	1	1	2
Empyemæ.....	1	1	2	1	1	2
General decay.....	1	1	2	1	1	2
Chronic meningitis.....	1	1	2	1	1	2
Periosteitis.....	1	1	2	1	1	2
Acute laryngitis.....	1	1	2	1	1	2
General ill health.....	1	1	2	1	1	2
Scarlatina.....	1	1	2	1	1	2
Typhomalarial fever.....	1	1	2	4	4	8
Pulmonary hemorrhage.....	1	1	2	1	1	2
Bright's disease.....	1	1	2	3	3	6
Killed by cause.....	1	1	2	1	1	2
Unknown.....	1	1	2	1	1	2
Total.....	66	41	107	808	541	1,349

TABLE XXII.

NATIVITY OF THOSE RECOVERED FROM THE BEGINNING.

COUNTRY.	NUMBERS RECOVERED.			PER CENT RECOVERED OF EACH CLASS ADMITTED.		
	Males.	Females.	Total.	Males.	Females.	Total.
	Maine.....	8	6	14	23.33	28.57	25.45
New Hampshire.....	5	5	10	31.25	18.18	25.00
Vermont.....	15	6	21	15.38	18.75	16.00
Massachusetts.....	13	7	20	28.98	22.16	25.00
Rhode Island.....	1	3	4	50.00	33.33	37.50
Connecticut.....	5	5	10	23.81	14.28	20.00
New York.....	65	43	108	33.80	23.73	25.00
New Jersey.....	8	3	11	29.43	22.07	27.50
Pennsylvania.....	102	73	175	31.52	31.87	31.82
Maryland.....	8	3	11	24.24	18.75	22.45
Virginia.....	26	35	61	25.00	35.71	29.51
West Virginia.....	3	1	4	16.66	10.00	12.50
North Carolina.....	11	3	14	40.07	21.57	34.14
South Carolina.....	2	2	4	50.00	33.33	41.67
Alabama.....	1	1	2	33.33	33.33	33.33
Louisiana.....	1	1	2	33.33	33.33	33.33
Arkansas.....	1	1	2	100.00	100.00	100.00
Ohio.....	195	176	371	32.43	35.00	33.36
Indiana.....	86	60	146	29.73	20.20	20.04
Illinois.....	63	64	127	31.53	33.33	32.33
Kentucky.....	28	16	44	31.82	32.00	31.88
Tennessee.....	8	8	16	18.60	26.06	21.92
Missouri.....	21	10	31	27.27	20.41	24.69
Michigan.....	10	5	15	45.45	33.33	40.54
Wisconsin.....	6	13	19	20.00	56.52	36.84
Delaware.....	2	2	4	60.00	33.33	46.67
California.....	1	1	2	16.66	11.11	13.33
Iowa.....	247	183	430	33.03	30.31	31.74
Minnesota.....	2	3	5	66.66	33.33	50.00
Nebraska.....	1	2	3	66.66	50.00	60.00
Kansas.....	1	1	2	50.00	33.33	41.67
District of Columbia.....	1	1	2	100.00	100.00	100.00
New Mexico.....	1	1	2	100.00	100.00	100.00
Canada.....	2	1	3	45.45	30.43	41.02
Nova Scotia.....	1	1	2	33.33	33.33	33.33
Norway.....	8	4	12	25.80	18.18	22.94
Sweden.....	32	16	48	28.57	24.24	25.00
Netherlands.....	11	7	18	44.00	23.81	47.37
Bohemia.....	4	5	9	23.63	22.73	23.67
France.....	7	7	14	30.43	26.00	27.27
Switzerland.....	1	6	7	31.63	50.00	39.61
Portugal.....	1	1	2	100.00	100.00	100.00
Germany.....	81	76	157	21.69	23.82	22.55
Austria.....	1	1	2	5.00	5.00	5.00
Denmark.....	3	3	6	13.04	7.69	10.00
Russia.....	3	1	4	20.00	16.66	18.69
Great Britain.....	129	50	189	28.04	21.07	25.31
Italy.....	1	1	2	100.00	100.00	100.00
Unknown.....	21	17	38	27.63	30.24	28.80
Total.....	1,263	929	2,194			

TABLE XXIV.

AGES AT DEATH.

AGES.	IN THE PERIOD.			FROM THE BEGINNING.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 15	1	1	2	5	4	9
15 to 20	1	1	2	28	23	51
20 to 25	1	3	4	69	63	132
25 to 30	10	4	14	103	84	187
30 to 35	6	9	15	85	64	149
35 to 40	5	3	8	106	63	169
40 to 45	4	3	7	73	57	130
45 to 50	5	9	14	81	43	124
50 to 55	15	3	18	113	86	199
55 to 60	6	3	9	73	34	107
60 to 70	4	3	7	41	19	60
70 to 80	2	2	4	9	3	12
80 to 90	3	1	4	30	12	42
Unknown	3	1	4	30	12	42
Total	66	41	107	806	541	1,347

TABLE XXV.

RATIO OF DEATH.

PER CENT.			
	Males.	Females.	Total.
Of all deaths on all admitted	19.01	17.34	18.31
Of deaths within period on those under treatment	7.87	6.26	7.33

TABLE XXVI.

DURATION OF DISEASES OF THOSE WHO DIED FROM THE BEGINNING.

DURATION.	FROM ADMISSION INTO HOSPITAL.			FROM THE ATTACK.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 month	134	81	215	31	25	56
1 to 3 months	39	36	75	24	24	48
3 to 6 months	50	29	79	78	13	91
6 to 9 months	104	74	178	47	37	84
9 to 12 months	74	31	105	133	35	168
12 to 18 months	58	32	90	33	21	54
18 to 24 months	76	46	122	76	39	115
24 to 3 years	65	39	104	30	35	65
3 to 4 years	74	74	148	73	33	106
4 to 5 years	42	33	75	54	33	87
5 to 10 years	28	22	50	33	35	68
10 to 20 years	50	42	92	60	83	143
Over 20 years	11	16	27	91	47	138
Unknown	1	1	2	23	5	28
Total	806	541	1,347	806	541	1,347

TABLE XXVII.

REMAINING IN THE HOSPITAL AT THE END OF THE PERIOD.

AGE.			
	Males.	Females.	Total.
Under 15	4	1	5
15 to 20	4	5	9
20 to 25	13	10	23
25 to 30	13	13	26
30 to 35	38	29	67
35 to 40	44	73	117
40 to 45	36	48	84
45 to 50	31	41	72
50 to 60	33	37	70
60 to 70	6	10	16
70 to 80	1	1	2
80 to 90	8	1	9
Unknown	1	1	2
Total	326	436	762

TABLE XXVIII.

REMAINING AT THE END OF THE PERIOD—DURATION OF DISEASE.

	SINCE ENTERING THE HOSPITAL.			SINCE THE AT- TACK.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 month.....	8	11	19	1	1	2
1 to 2 months.....	17	12	29	4	4	8
2 to 3 months.....	34	42	76	11	10	21
3 to 6 months.....	47	39	86	18	19	37
6 to 9 months.....	15	19	34	10	7	17
9 to 12 months.....	37	28	65	23	28	51
12 to 18 months.....	28	43	73	15	23	38
18 to 24 months.....	39	64	104	27	45	72
2 to 5 years.....	46	65	111	48	74	122
5 to 10 years.....	40	61	101	66	89	155
10 to 15 years.....	15	17	32	22	44	66
15 to 20 years.....	1	7	8	12	19	31
20 to 25 years.....	1	1	2	2	14	16
25 to 30 years.....	.....	.....	.....	1	8	9
30 to 40 years.....	.....	.....	.....	2	6	8
Over 40 years.....	.....	.....	.....	2	.....	2
Unknown.....	.....	.....	.....	62	40	102
Total.....	326	433	759	326	432	758

TABLE XXIX.

NUMBER OF PERSONS AND TIMES EACH HAS BEEN ADMITTED.

	PERSONS.	ADMISSIONS.
Number admitted once.....	5,658 making	5,658
Number admitted twice.....	641 making	1,282
Number admitted three times.....	77 making	231
Number admitted four times.....	32 making	112
Number admitted five times.....	7 making	35
Number admitted six times.....	1 making	6
Number admitted seven times.....	2 making	14
Number admitted eight times.....	1 making	8
Number admitted twelve times.....	1 making	12
Total.....	6,416	7,458

TABLE XXX.

DAILY AVERAGE OF PATIENTS.

1887 AND 1888.		1888 AND 1889.	
July, 1887.....	750.52	July, 1888.....	786.93
August, 1887.....	713.80	August, 1888.....	179.70
September, 1887.....	721.23	September, 1888.....	743.23
October, 1887.....	737.15	October, 1888.....	764.96
November, 1887.....	728.62	November, 1888.....	769.11
December, 1887.....	734.10	December, 1888.....	757.74
January, 1888.....	743.20	January, 1889.....	683.16
February, 1888.....	763.10	February, 1889.....	711.63
March, 1888.....	773.06	March, 1889.....	733.40
April, 1888.....	753.64	April, 1889.....	751.53
May, 1888.....	771.61	May, 1889.....	754.80
June, 1888.....	780.53	June, 1889.....	754.20

Daily average for the period, 747.21.

REPORT OF THE STEWARD.

Steward's Exhibit of Current Expense Fund, from July 1, 1887, to July 1, 1888.

RECEIPTS.

1887.			
July	1.	Balance in treasury.....	\$ 1,062.74
July	5.	From Auditor of State.....	29,266.00
September	30.	From collections.....	531.32
October	12.	From Auditor of State.....	30,658.00
December	31.	From collections.....	484.20
1888.			
January	1.	From Auditor of State.....	30,628.00
March	31.	From collections.....	436.73
April	1.	From Auditor of State.....	31,970.00
June	30.	From collections.....	1,184.56
Total.....			\$ 126,257.74

EXPENDITURES.

Meats and fish.....	\$ 15,985.08
Bread stuffs.....	4,192.80
Fruit and vegetables.....	4,712.26
Coffee and tea.....	2,212.57
Sugar and syrup.....	2,400.56
Sundry groceries.....	3,653.15
Butter.....	9,196.58
Cheese and eggs.....	1,081.17
Soap.....	542.51
Mortuary expenses.....	124.00
Medicinal supplies.....	2,062.67
Dry goods and clothing.....	8,784.00
Postage and stationery.....	917.43
Library and diversions.....	824.26
Furniture and furnishing.....	359.18
Hardware and queensware.....	1,759.84
Repairs.....	2,465.81
Contingencies.....	3,122.49
Visiting committee.....	459.50
Farm.....	4,294.50
Fuel.....	12,350.62
Lights.....	2,573.00
Salaries.....	41,113.28
Balance.....	\$ 124,888.76
Total.....	\$ 126,257.74

Steward's Exhibit of the Current Expense Fund, from July 1, 1888 to July 1, 1889.

RECEIPTS.

1888.			
July	1.	Balance on hand July 1.....	\$ 1,368.98
September	30.	From Auditor of State.....	32,634.00
October	1.	From Auditor of State.....	32,634.00
December	31.	From collections.....	569.53
1889.			
January	2.	From Auditor of State.....	33,375.00
March	31.	From collections.....	417.00
April	1.	From Auditor of State.....	32,085.00
June	30.	From collections.....	1,232.01
Total			\$ 134,899.73

EXPENDITURES.

Meats and fish.....	18,252.38
Breadstuffs.....	5,897.50
Fruit and vegetables.....	2,778.03
Coffee and tea.....	2,112.14
Sugar and syrup.....	2,028.35
Sundry groceries.....	3,051.13
Butter.....	8,681.56
Cheese and eggs.....	1,021.67
Soap.....	691.29
Mortuary expenses.....	146.50
Medicinal supplies.....	2,866.17
Dry goods and clothing.....	9,805.42
Postage and Stationery.....	1,559.41
Library and diversions.....	806.13
Furniture and furnishing.....	377.65
Hardware and queensware.....	4,890.65
Repairs.....	2,967.35
Contingencies.....	4,991.96
Visiting committee.....	428.71
Farm.....	4,724.33
Fuel.....	9,267.21
Lights.....	3,286.84
Salaries.....	43,102.34
Balance.....	\$ 134,822.81
	86.92
Total	\$ 134,909.73

STEWARD'S EXHIBIT.

Special appropriation funds for the biennial period ending June 30, 1889.

HOSPITAL WING BUILDING FUND.

1887.			
July	1.	By balance overdrawn.....	\$ 20,000.00
July	3.	To amount received from State.....	20,000.00

BOILER HOUSE FUND.

1888.			
April	1.	Amount drawn from Auditor of State.....	\$ 10,000.00
July	16.	Amount drawn from Auditor of State.....	10,000.00
Total			\$ 20,000.00

EXPENDITURES.

Labor.....	\$ 4,962.56
Paint and Glass.....	105.96
Lumber.....	1,165.00
Brick.....	2,848.13
Hardware.....	1,389.18
Lime, cement and sand.....	747.74
Boilers.....	5,285.00
Stone.....	919.41
Roofing.....	1,474.00
Injectors, etc.....	228.00
Pipes and fittings.....	815.02
Balance.....	\$ 20,000.00

REPAIRS AND CONTINGENT FUND.

1888.				
April	23.	Balance on hand from 21st General Assembly.....	\$ 716.48	
1889.	April	1.	Amount drawn from Auditor of State.....	2,280.00
Total			\$ 3,006.48	

EXPENDITURES.

Labor.....	\$ 3,335.07
Lumber.....	541.98
Paint.....	996.00
Hardware.....	219.50
Sand and cement.....	304.72
Balance.....	1,416.91
Total	\$ 6,966.48

FOR PURCHASE OF LAND.

1889.			
April	8.	Amount drawn from Auditor of State.....	\$ 15,000.00

EXPENDITURE.

1889.			
June	30.	To 240 acres of land.....	\$ 15,000.00

TREASURER'S EXHIBIT.

C. V. ARNOLD, *Treasurer, in account with the current expense fund for biennial period ending June 30, 1889.*

DEBTOR.

1887.			
July	1.	To balance on hand	1,082.74
July	5.	To amount received from State	20,206.00
September	30.	To amount received from Steward	331.32
October	15.	To amount received from State	36,058.00
December	31.	To amount received from Steward	484.39
1888.			
January	17.	To amount received from State	30,328.00
March	31.	To amount received from Steward	436.73
April	16.	To amount received from State	21,976.00
June	30.	To amount received from Steward	1,184.50
July	18.	To amount received from State	32,634.00
September	30.	To amount received from Steward	643.52
October	15.	To amount received from State	22,634.00
December	31.	To amount received from Steward	599.53
1889.			
January	17.	To amount received from State	33,175.00
March	30.	To amount received from Steward	417.00
April	15.	To amount received from State	32,085.00
June	24.	To amount received from Steward	1,322.61
			\$ 230,848.40

CREDIT.

1887.			
		By vouchers for July, paid as per abstract	20,840.74
		By vouchers for August, paid as per abstract	5,730.62
		By vouchers for September, paid as per abstract	4,279.44
		By vouchers for October, paid as per abstract	30,480.83
		By vouchers for November, paid as per abstract	5,203.41
		By vouchers for December, paid as per abstract	5,071.39
1888.			
		By vouchers for January, paid as per abstract	24,207.83
		By vouchers for February, paid as per abstract	3,646.88
		By vouchers for March, paid as per abstract	3,412.65
		By vouchers for April, paid as per abstract	23,676.66
		By vouchers for May, paid as per abstract	3,846.44
		By vouchers for June, paid as per abstract	4,273.48
		By vouchers for July, paid as per abstract	24,182.58
		By vouchers for August, paid as per abstract	5,030.56
		By vouchers for September, paid as per abstract	4,407.17
		By vouchers for October, paid as per abstract	20,774.29
		By vouchers for November, paid as per abstract	7,844.11
		By vouchers for December, paid as per abstract	5,017.19

1885.

By vouchers for January, paid as per abstract	\$ 24,206.79
By vouchers for February, paid as per abstract	5,088.31
By vouchers for March, paid as per abstract	4,821.71
By vouchers for April, paid as per abstract	23,520.80
By vouchers for May, paid as per abstract	4,736.21
By vouchers for June, paid as per abstract	5,444.07
By balance on hand	86.92
	\$ 230,848.40

TREASURER'S EXHIBIT.

C. V. ARNOLD, *Treasurer, in account with the special appropriation funds for the biennial period ending June 30, 1889.*

HOSPITAL WING BUILDING FUND.

			CR.	
1887.				
July	1.	By balance, overdrawn		\$ 20,000.00
			DR.	
July	5.	To amount received from State	\$ 20,000.00	
			BOILER AND BOILER HOUSE FUND.	
			DR.	
April	30.	To amount received from State	\$ 10,000.00	
July	18.	To amount received from State	10,000.00	

CR.

1888.			
		By vouchers for quarter ending June 30	\$ 1,428.88
		By vouchers for quarter ending September 30	7,301.13
		By vouchers for quarter ending December 31	9,751.89
1889.			
		By vouchers for quarter ending March 31	1,353.52
		By vouchers for quarter ending June 30	372.58
			\$ 20,000.00 \$ 20,000.00

REPAIR AND CONTINGENT FUND.

			DR.	
1887.				
July	1.	To balance on hand	\$ 716.48	
1888.				
April	30.	Amount received from State	2,000.00	
July	18.	Amount received from State	1,500.00	
1889.				
April	8.	Amount received from State	2,750.00	

CR.

1887.			
By vouchers paid for quarter ending September 30.....	\$	509.80	
By vouchers paid for quarter ending December 31.....		90.50	
1888.			
By vouchers paid for quarter ending March 31.....		116.18	
By vouchers paid for quarter ending June 30.....		1,005.69	
By vouchers paid for quarter ending September 30.....		1,086.80	
By vouchers paid for quarter ending December 31.....		1,111.35	
1889.			
By vouchers paid for quarter ending March 31.....		49.60	
By vouchers paid for quarter ending June 30.....		1,586.65	
By balance on hand.....	\$	1,416.91	
	\$	6,966.48	\$ 6,966.48

FOR PURCHASE OF LAND FUND.

DR.

1889.			
April 8.	To amount received from State.....	\$	15,000.00

CR.

1888.			
June 30.	By voucher paid for land.....	\$	15,000.00

REPORT

OF THE

JOINT COMMITTEE

OF THE

TWENTY-THIRD GENERAL ASSEMBLY

OF THE

STATE OF IOWA,

APPOINTED TO VISIT THE

HOSPITAL FOR THE INSANE

LOCATED AT

MT. PLEASANT.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:
G. H. HAGSDALE, STATE PRINTER.
1890.