PROCEEDINGS

OF THE

CONNECTICUT MEDICAL SOCIETY,

1893.

ONE HUNDRED AND FIRST

ANNUAL CONVENTION,

HELD AT

HARTFORD, MAY 24TH AND 25TH.

PUBLISHED BY THE SOCIETY.

N. E. WORDIN, A.M., M.D., SECRETARY,

BRIDGEPORT.

BRIDGEPORT, CONN.:
STILES & TUCKER, BOOK AND JOB PRINTERS.
1893.

The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are indorsed by a special vote.

All communications intended for the Connecticut Medical Society must be addressed to N. E. Wordin, M.D., Bridgeport, Conn.

The Century Dictionary has been used, as far as possible, in the preparation of this volume.

The next Annual Meeting of the Connecticut Medical Society will be held in New Haven, May 23d and 24th, 1894.

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ERRORS.

On page 104, line eight, the date 1893 should be 1793.

In the list of Honorary Members, the name William M. Collom should be William McCollum.

OFFICERS OF THE SOCIETY.

1893—1894.

PRESIDENT.

FRANCIS D. EDGERTON, Middletown.

VICE PRESIDENT.

FRANCIS N. BRAMAN, New London.

VICE PRESIDENTS, *ex officio.*

E. P. SWASEY,
WALTER L. BARBER,
ANTHONY PECK,
F. M. WILSON,
T. S. HANCHETT,
F. B. LOOK,
T. F. ROCKWELL,
E. H. DAVIS.

TREASURER.

W. W. KNIGHT.

SECRETARY.

N. E. WORDIN.

COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

GEORGE L. PORTER, H. FLEISCHNER,
ELI P. FLINT.

STANDING COMMITTEES.

Committee to Nominate Physicians to the Retreat for the Insane.

JAS. C. CAMPBELL, M.D., ABIEL W. NELSON. M.D.,
FRANCIS L DICKINSON, M.D., GEO. L. PORTER, M.D.,
O. J. D. HUGHES, M.D.

Committee on Legislation.

M. STORRS, M.D., F. BACON, M.D.,
L. S. PADDOCK, M.D., E. F. PARSONS, M.D.,
N. E. WORDIN, M.D.

E. J. McKNIGHT, M.D., Hartford County.
O. J. D. HUGHES, M.D., New Haven County.
F. N. BRAMAN, M.D., New London County.
J. W. WRIGHT, M.D., Fairfield County.
J. B. KENT, M.D., Windham County.
R. S. GOODWIN, M.D., Litchfield County.
D. A. CLEAVELAND, M.D., Middlesex County.
C. B. NEWTON, M.D., Tolland County.

Committee on Publication.

N. E. WORDIN, M.D., *ex officio,*
JULIAN LA PIERRE, M.D., *ex officio,*
J. W. WRIGHT, M.D.

Committee of Arrangements.

FRANK E. BECKWITH, M.D., *Anniversary Chairman,*
GUSTAVUS ELIOT, M.D.,
FRANK W. WRIGHT, M.D.

Dissertator.

CHARLES B. GRAVES, M.D.

Alternate.

FREDERICK M. WILSON, M.D.

PROCEEDINGS

OF THE

CONNECTICUT MEDICAL SOCIETY.

ONE HUNDRED AND FIRST ANNUAL CONVENTION.

The President and Fellows of the Connecticut Medical Society met in Good Will Hall, Hartford, on Wednesday, the 24th of May, 1893, the meeting being called to order by the President, Dr. Cyrus B. Newton.

The Report of the Committee on Credentials was called for. The Secretary called the roll of those regularly appointed, with their alternates, as follows:

FELLOWS, *ex officio.*

President.

CYRUS B. NEWTON.

Vice President.

FRANCIS D. EDGERTON.

Vice Presidents, ex officio.

E. P. Swasey,

*Walter L. Barber,

*Anthony Peck,

F. M. Wilson,

*T. S. Hanchett,

F. B. Look,

*T. F. Rockwell,

*E. H. Davis.

*Absent.

Treasurer.

W. W. KNIGHT.

Secretary.

N. E. WORDIN.

Committee on Matters of Professional Interest in the State.

J. G. STANTON, *W. H. HOLMES, J. G. GREGORY.

FELLOWS ELECTED IN 1893.

Hartford County.

G. P. Davis, *Charles Wooster,
J. B. Lewis, W. M. Hudson,
H. C. Bunce.

New Haven County.

O. J. D. Hughes, †H. L. Swain,
*W. S. Russell, *J. H. Townsend,
M. Mailhouse.

New London County.

J. G. Stanton, C. E. Brayton,
L. B. Almy, L. S. Paddock,
*G. H. Jennings.

Fairfield County.

J. G. Gregory, *S. M. Garlick,
*W. Cummings, *J. W. Wright,
W. G. Brownson.

Windham County.

*R. Robinson, *R. C. White,
*J. B. Kent, F. E. Guild,
*C. H. Allen.

---

*Absent. †E. W. Pierce, Alternate.

Litchfield County.

R. S. Goodwin, *C. O. Belden,
*J. C. Keudall, *W. S. McLaren,
*J. T. Sedgwick.

Middlesex County.

A. B. Worthington, M. C. Hazen,
*J. H. Grannis, M. W. Plumstead,
*F. E. Potter.

Tolland County.

W. L. Higgins, E. P. Flint,
A. R. Goodrich.

The President then delivered the

ANNUAL ADDRESS TO THE FELLOWS.

Gentlemen—Fellows of the Connecticut Medical Society:

It gives me pleasure as your Presiding Officer to welcome you to this meeting of the Connecticut Medical Society, the first in the second century of its organization as a society for the promotion of medical knowledge, fraternity of feeliug, for comparison of ideas, iuterchauge of thought upon the subjects of diseases and their best remedies—for establishing close ties between members of our profession.

Each laborer, each investigator in all countries to-day contributes to the general fund of medical knowledge, none of which is hidden away in the brain of the medical scientist, but through the agency of such societies as ours communicating with all others through medical publications we have the best knowledge of all the rest.

One of the most noble principles in our medical ethics is that no medicine should be kept secret, that no surgical instrument should be patented.

This is accepted as right among all physicians who are well worthy of the name, thus enabling us by all these ready means

*Absent.

to greater and greater service to those who look to us for help in their hour of peril.

We cannot turn our attention for a moment to a more interesting and memorable subject than a passing review of the great advance which has been made in medicine and surgery during the last one hundred years.

We owe very much to the inventive ingenuity of the American. In each year there has been introduced some improvement upon the simple instruments of our fathers. For elegance, excellence and most perfect adaptation to its requirements, our medical artisans have excelled all others in devising surgical instruments.

Within our memory hypodermic injections of the alkaloid solutions and the active principle of medicines have come into use, adding greatly to our ability to give them to the best advantage. It is but a generation ago that this method was opposed by many as dangerous on account of the possible introduction of air into the veins. If a hypodermic injection of morphia had been used at its first introduction to the profession in a case of Angina Pectoris and a fatal termination from the disease had followed, a wrongful use of morphia would have been the unjust verdict.

Among the most useful instruments which have come into use since our fathers' time is the Aspirator for exploration and for evacuation of fluids.

Its advantages over the trocar are more and more appreciated since the adoption of antisepsis in the treatment of wounds. The old instrument made a punctured wound difficult of healing, air being allowed free admission to the lesion and the cavity to which it led, exposing the part to septic danger. In aspirating by drawing the skin aside the puncture becomes closed after the operation in a valvular way, making it altogether one of the most satisfactory instruments in our armamentarium.

There is no operation in surgery that has not been greatly changed in method and technique.

There is not opportunity now for even a mention of all the surgical appliances which were entirely unknown at the time of the formation of our society. No review of this subject

would be complete without mention of anesthesia, which has revolutionized surgical procedures in every country.

The physicians of this State are proud of the distinction that to this State and to this city belongs the honor of the discovery of anesthesia by one of our brotherhood, Dr. Horace Wells.

His is "one of the immortal names not born to die." As we believe in the eternal fitness of things so we believe that future history will award the undivided praise that he alone gave this inestimable boon to the suffering world. Surgeons have the position they now occupy only by the brilliant advances which their art has made, and by the skill and courage of that long line of practitioners of the century now past.

Antiseptics have within the last twenty years reduced the mortality from operations to an extent which was scarcely credited when Lister introduced them. But the greatest reform in the modern history of Surgery was when ether was discovered by Dr. Wells to be an anesthetic permitting the surgeon to operate quietly without the groans of the patient disturbing his composure.

The practice of medicine has been radically changed because of more definite and minute knowledge of the causation of disease.

Bacteriological studies have revealed to us a materialism, a definite germ which by its rapid multiplication "the life of all the blood is touched corruptibly." Auscultation and percussion, which have been introduced since the founding of this Society as an important help to diagnosis of the diseases of the chest, demonstrated and introduced by Laennec and Avenbrugger to the profession, is a full and complete method of studying in minute detail normal and pathological conditions of the lungs and heart. Now abnormal and structural changes in the lungs and heart can be mapped out with the greatest accuracy.

The first ovariotomy performed by McDowell in 1809, regarded at that time as a dare-devil operation, is now described as one of the most simple; that with strict antiseptic and aseptic precautions any amateur in operative abdominal surgery can unsex a woman if she has a persistent hysterical neuralgia in that region, which is the source of more atrocious pain than any other part of her body.

Going back into the remote past we find as great ignorance among men otherwise learned as we find among the half-civilized races of to-day—ignorant of the inner structures of the body, which were regarded as sacred. The general belief was that many diseases were caused by evil and malicious spirits; consequently the practice of medicine was confined to the priests, the sorceress and the witch of pseudo and unchristian science. Ignorant of their anatomy and of the remedial effect of medicine upon disease, all believed in the marvelous and the supernatural. They made long pilgrimages to the temples dedicated to medicine, to be cured by sorcery, the mystic influence of the laying-on of hands, or by some of the juggling pretences practiced at the present day. The time has come when the course of medical study is being extended so as to include bacteriological studies, which demand more time of the medical student. This implies an early commencement, so that the facts of the science may become fixed—the student growing up into a physician with his growth.

The encounter of the Medical Societies of this State with the irregular practitioners revealed the fact that great numbers were unable to practice in other States on account of the Medical Practice laws, since nearly all the States have them except Massachusetts, Rhode Island, Connecticut and Alaska. The proposed law would give all physicians the opportunity of putting themselves upon record that they are qualified to practice. They would have the advantage of a certificate of one or the other of the Examining Boards that they were learned in their profession, and it would be a letter of introduction for the new physician.

They who have been most active in opposing a law requiring qualification and registration belong to a class who do not locate and bear the responsibilities of their practice.

It has been found needful to enact a law regulating the *sale* of medicines: that "three Commissioners of Pharmacy are appointed by the Governor to determine the qualifications of applicants for license as pharmacists such persons as shall produce satisfactory evidence to them of their qualifications and attainments, either by diploma granted to the applicant by some reputable college of pharmacy or by the certificate of reputable

pharmacists that the applicant has for not less than three years prior to his application received instructions in pharmacy." If the applicant for a druggist's license be found entirely ignorant of the science of pharmacy and is refused a license he can open a physician's office in the same town the next day, without having studied medicine, and prescribe the medicine of which he was found to have no definite knowledge!

It must be a slumbering public opinion which will not awake to the need of law regulating the practice of medicine as well as that of pharmacy.

You are aware by circular that "The Senate and House of Representatives of the United States are petitioned to appropriate money with which to assist in defraying the expenses of the Pan-American Medical Congress." The commercial interests will be benefited by the influence of the proposed Congress in preparing the way for the adoption of a uniform set of quarantine regulations for all the countries and colonies. The absence of such uniform regulations is to-day one of the most serious impediments to commerce in the Western Hemisphere and results in large pecuniary losses annually. The International American Conference a few years ago was unable to adjust the question because the underlying scientific data were not sufficiently definite. One section of the Congress will be devoted to quarantine with the object of debating and as far as possible settling mooted scientific questions connected with the general subject which will thereby be placed in position to be taken up satisfactorily.

The Congress is to be held in Washington Sept. 5th, 6th, 7th, 8th, 1893. The petition is for an appropriation of forty thousand dollars.

The circular, as you have noticed, alludes further to a more complete study of epidemic diseases which will be the promotion of health of the entire people. These epidemics also menace us from the South. Diseases of the hot climates will be especially considered by the Congress.

Advantage will accrue to the people by a better understanding of the various problems in climatology that will be discussed, while all communities are vitally concerned in all matters of domestic, municipal and State sanitation, such as will engage the

attention of the Section on these subjects. The vigilance of our Governments, state and national, in this matter is none too great nor none too soon.

There are official reports of the prevalence of cholera in more of the sea-ports and inland cities of Europe during last winter and spring than existed last summer and the disease is ready to become more prevalent with the heat of the coming season.

This fact, with the ever recurring yellow fever in the tropical sea-ports, presents dangers from both directions to be met by the most rigid quarantine.

Excluding the pauper and criminal class by a law which should have been put in force fifty years ago, will greatly lessen the danger of a cholera epidemic. We have an assurance that this exclusion will be thoroughly done, in the fact that both political parties are agreed upon this question of assorting emigrants. The fisherman lands only the good fish from his net.

The law of exclusion is applied to diseased animals "for the suppression and extirpation of contagious diseases"—also of inspection and quarantine. This is of great financial importance, but the lessening of the death-rate from preventable diseases by exclusion is of vastly more concern to us as sanitarians.

Dr. Lindsley of the State Board of Health says the restriction of contagious diseases is by three agencies—Notification, isolation, and disinfection, that the greatest of these is disinfection. Prof. Pettenkoffer of Munich, one of the highest sanitary authorities of Europe, predicts a probable revival of the cholera during the coming summer. Surgeon General Wyman of the Marine Hospital service recommends as a measure of safety to the country during the progress of the World's Columbian Exposition that immigration be suspended for at least one year: this is based on the prediction of sanitary experts that cholera is almost certain to reappear in European countries the coming summer. It is regarded as certain that the Secretary of the Treasury will indorse the proposition as a part of his general plan for the establishment of a national quarantine service.

The pilgrimages to Mecca from the countries of Asia and Africa are the source of all European cholera epidemics. To die when upon the pilgrimage is Paradise; being God's Will what better could they do? Sanitary measures practiced by Western

nations are unknown to them. They believe in a providence which shapes their end! That sanitation and preventive means would be of no avail.

At a meeting of joiut committees of the Chicago medical profession on World's Fair Entertainment, held at the Sherman House, the establishment of a Bureau of Information and the matter of social entertainment was delegated on application to the Practitioners' Club, and the South Side Medical Club, with authority to act in the capacity of entertaining bodies with the chairman Dr. Earle and its American and Foreign secretaries.

I refer to this as it may be to the advantage of physicians who will visit the World's Fair to avail themselves of the social attention offered by the Chicago Medical Societies.

The Secretary has had unavoidable delays in getting the Proceedings published in due season. Political urgencies last Fall crowded the publishers in Bridgeport and Hartford. I deem this matter of an earlier appearance of the Proceedings as needing our consideration, suggesting more promptness on the part of contributors and better facilities for early attention to our publications. The Secretary has had great difficulties in getting this work done. There have been many provoking delays for the above reasons.

It is my duty on this occasion to remind you that death has removed from among us members and associates of this society during the year past—

Dr. E. C. Kinney of Norwich, a most worthy, reliable physician and a sympathetic and loved friend;

Also Dr. H. W. Buel of Litchfield, both formerly Presideuts of this society;

Dr. George W. Avery of this city, an active member of several medical societies;

Surgeon General Henry Hungerford of Stamford, a member of this society, who had introduced sanitary reforms in his connection with the annual encampment of the National Guards.

I think it advisable to have annual reporters of the progress of medicine and surgery as well as essayists from the different counties continued as formerly: also that the office of Secretary be a permanent one with adequate compensation.

I would call attention to the need of a Librarian who should

have the appointment permanently at New Haven as long as our library is there. Our books are certain to accumulate there, and at present there is no one especially appointed to look after them.

The By-Laws will need to be changed in order to accomplish this.

I now declare the one hundred and first convention of the Connecticut Medical Society open and ready for the transaction of business.

A committee of three, Doctors Brayton, Brownson and Flint, was appointed to consider the subjects recommended by the President in his address.

The meeting thereupon adjourned to 2.30 p. m.

At 2.30 the Society was called together, and the following Committees were announced by the President:

On Credentials.

N. E. Wordin, E. P. Swasey.

On Unfinished Business.

M. Mailhouse, W. G. Brownson,
J. H. Grannis.

On County Resolves.

J. H. Townsend, C. E. Brayton,
J. G. Gregory.

On Business.

N. E. Wordin, J. W. Wright,
J. B. Lewis.

On Honorary Members and Degrees.

M. C. Hazen, A. R. Goodrich,
L. S. Paddock.

Auditing.

Charles Wooster, C. O. Belden.

To Nominate Reporters on the Progress of Medicine and Surgery.

G. H. Jennings, W. L. Barber,
S. M. Garlick.

On Reception of Delegates and Invited Guests.

J. E. Root, C. C. Beach,
G. R. Shepherd, A. J. Cook.

The Treasurer rendered his annual report, which was received and referred to the Auditing Committee.

REPORT OF THE TREASURER.

To the President and Fellows of the Connecticut Medical Society:

As Treasurer I present the following report of the finances of the Society for the year ending May 23d, 1893:

RECEIPTS.

Balance from old account,		$1,231 64
Received from County Clerks:		
Hartford County,	$214 20	
New Haven "	221 40	
New London County,	64 80	
Fairfield "	152 10	
Windham "		
*Litchfield "	15 00	
Middlesex "	55 80	
Tolland "	16 20	
Total from annual tax,		739 50
From exhibitors at meeting of 1892,		92 33
Total receipts,		$2,063 47
Total expenses,		1,788 42
Cash in Treasury May 24, 1893,		275 00
Bills unpaid May 24, 1893,		366 66
Deficit,		$91 61
Decrease of receipts from regular annual tax,		67 00
Increase of expenses,		955 30

Due on Tax of 1892.

Hartford County,	Nothing.
New Haven "	$80 00
New London County,	14 00
Fairfield "	30 00
Windham "	72 00
Litchfield "	14 00
Middlesex "	Nothing.
Tolland "	14 00
Total taxes in arrears,	$224 00
Increase over 1891,	122 00

*Since closing the account $48.80 has been received from Litchfield County.

In my last annual report I ventured to express the opinion that the ordinary tax of two dollars would be insufficient to meet the unusual expenses of the centennial meeting and of printing the Proceedings, and I recommended the laying of an extra tax. This was not done. The Society now has a deficit of nearly $100, which will be increased by the expenses of the present meeting. This deficit is rendered smaller than expected by the refusal of the counsel employed by the Medical Practice Bill Committee to accept any remuneration. In order to put the Society on a sound financial basis an increase of our annual tax will be necessary. A tax of three dollars will be needed to pay all debts and provide for the next meeting.

Respectfully presented,

W. W. Knight, Treasurer.

No member of the Auditing Committee being present, Doctors Goodrich and Storrs were appointed.

The only Special Committee to report was that on the Pan-American Medical Congress by Dr. Wordin, which was received as a report of progress.

The Secretary read a letter from Dr. James Edmund Reeves of Chattanooga, Tenn., in which Dr. Reeves expressed his appreciation of the position of Honorary Member, to which the Society had elected him, and as some slight token presented them with some microscopic slides of pneumonia, bacillus tuberculosis and nephritis. The Society accepted the gift and returned its thanks for the letter and the slides.

The Secretary also read a letter from the German Medical Society of Connecticut:

New Haven, Conn., May 20th, 1893.

To the Officers, Fellows and Members of the Connecticut State Medical Society, greetings!

The German Medical Society of the State of Connecticut, composed of physicians of the German School residing in this State, hereby desires to inform your honorable society of its organization (September 27th, '92) and incorporation, (April 19th, '93.)

The scope of our work will be: Scientific investigation of medical topics, discussion of interesting cases in practice and the promotion of professional interests.

Although of the so-called "Regular School" we have not *formally* adopted the code of ethics of the American Medical Association but are in full accord with its tenor.

Candidates for membership must either have passed the State's examination (Staats examen) or be the possessor of the medical degree.

The utmost care will be exercised in regard to the qualifications of all candidates for membership.

At the annual meeting held in New Haven May 12th, '93, the following officers have been elected for the ensuing year:

President:	Dr. W. Sprenger,	New Haven.
Secretary:	Dr. H. Stewdel,	Ansonia.
Questor:	Dr. O. Nèidner,	Danbury.
Censores:	Dr. E. Weiss,	Ansonia.
	Dr. R. Clemens,	Bridgeport.

In the hope that the work of our society will tend to promote the interests of medicine in general and raise the standard of our profession,

I remain fraternally yours,
Dr. W. Sprenger.
President.

A motion was passed that the letter be accepted and its receipt acknowledged.

Dr. Mailhouse moved that the future volumes of the Proceedings be bound in cloth. This was discussed and adopted, as also a further motion that the books be numbered both by year and volume.

An expression of thanks to Dr. John B. Lewis for his work in indexing the Proceedings was presented by Dr. Joseph E. Root and unanimously adopted.

Resolved, That the grateful thanks of the Connecticut Medical Society be and are hereby tendered to Dr. John B. Lewis for his arduous labors in preparing the general Indices for the Proceedings for 1892.

Dr. Lewis has rendered a great service to the Society by his index of subjects, and to the history of the State, by finding the complete names of every one connected with the Society since its incorporation one hundred years ago.

This service, accomplished with much painstaking labor, time and expense to him, demands this expression of gratitude from us.

THE REPORT OF THE NOMINATING COMMITTEE

was called for and was given by Dr. Hughes. Following is the list of Officers and Delegates—

For President.

Francis D. Edgerton.

For Vice President.

Francis N. Braman.

For Secretary.

N. E. Wordin.

For Assistant Secretary.

Julian La Pierre.

For Treasurer.

W. W. Knight.

Committee on Matters of Professional Interest in the State.

George L. Porter, Henry Fleischner,
Eli P. Flint.

Nominating Physician to Retreat.

A. W. Nelson, in place of Dr. Matthewson.
G. L. Porter, Oliver J. D. Hughes.

Committee on Publication.

Sec'y N. E. Wordin, *ex-officio*, Ass't Sec'y Julian La Pierre,
J. W. Wright.

Anniversary Chairman.

F. E. Beckwith.

Committee of Arrangements.

Gustavus Eliot, Frank W. Wright.

Dissertator.

Charles B. Graves.

Alternate.

F. M. Wilson.

For Delegates to the American Medical Association.

Gustavus Eliot, W. G. Brownson,
R. S. Goodwin, G. P. Davis,
O. J. D. Hughes, C. H. Bill,
M. Storrs, E. W. Pierce.

For Delegates to the Maine State Medical Association.

Minor C. Hazen, J. H. Townsend.

For Delegates to the Vermont State Medical Society.

E. P. Douglas, H. G. Howe,
T. D. Crothers.

For Delegates to the Massachusetts Medical Society.

E. P. Flint, W. H. Carmalt.

For Delegates to the Rhode Island State Medical Society.

A. B. Worthington, C. E. Brayton.

For Delegates to the New York State Medical Association.

W. A. M. Wainwright, Gustavus Eliot.

For Delegates to the Medical Society of New Jersey.

M. C. O'Connor.

For Delegates to the International Medical Association.

F. E. Beckwith, D. A. Cleaveland,
R. S. Goodwin, J. G. Stanton,
Max Mailhouse, L. B. Almy,
Orlando Brown, C. A. Lindsley,
J. M. Benedict, G. H. Jennings.

The Secretary was directed to cast a ballot for the gentlemen named by the Committee and they were declared elected. No member of the Committee to nominate Reporters on the Progress of Medicine and Surgery being present, the President filled the vacancy by the appointment of Doctors Swasey, Look and Knight, and they reported,

Reporters on the Progress of Medicine.

John G. Stanton, D. Chester Brown.

Reporters on the Progress of Surgery.

F. H. Whittemore, T. Morton Hills.

The report was accepted.

The Committee on Business reported one paper in addition to those printed in the program, and that the Committee desired to reserve the right to change the papers according to circumstances which might occur. The report was accepted.

The Committee to nominate Physicians to the Retreat for the Insane reported that there had been nothing for the Committee to do.

Dr. Storrs reported for the

COMMITTEE ON LEGISLATION.

The Committee on Medical Legislation beg leave to offer the following report:

This committee, consisting of the standing committee on legislation and of a special committee of one from each county, in accordance with a vote of this Society in 1890, reported through the Secretary the work and progress of the committee for 1891—found on the 22d page of the Proceedings for that year—also the proposed medical bill found in the appendix of the same volume.

In 1892 no progress was reported on account of the legislative deadlock. The committee were continued. A meeting of the joint committee of the three medical societies was held early in the year 1893 to deliberate and decide if any changes were required in the bill previously prepared. No change in the bill was made. The hearings on the bill before the Judiciary Committee were somewhat memorable for the opposition

made. The Eclectics, Christian Science and Clairvoyants appeared by counsel in opposition. The bill was explained by Mr. Gross, and after able argument and addresses by citizens and members of the Homeopathic Society and our own, the hearing was concluded by a powerful argument for the bill by Mr. Gross. It was thought best, as very few members of the legislature heard this argument, to publish a stenographic report of it, and a copy was sent to each member of the legislature; the same was done with the earnest and eloquent address of Dr. George L. Porter. There is no doubt but these two addresses did much to carry the measure, although it must be remembered that a pretty thorough canvass was made by local physicians throughout the State, and due credit should be given to them. There is no doubt in the mind of your committee that the interest in favor of the bill has increased daily since the fierce attacks made upon it at the hearing. The bill was taken up in the Senate, some slight amendments were made, striking out the Christian Scientists and those not using drugs. The House made an amendment, so that it had to be returned to the Senate and then again to the House. The bill as amended was passed by a large majority. The bill is not as sweeping as the original bill, but is not very materially affected. We include a copy of it in this report, but assuming that the members are acquainted with the bill we will not read it. We also include in this report a copy of the able argument of Mr. Gross and the speech of Dr. Porter, and pertinent remarks by Charles Dudley Warner, Esq. [For the bill and these papers, see Appendix.]

Your committee feel confident that this Medical Practice Act, under the judicious direction of the State Board of Health, will commend itself to the general profession and to the people of the State. It may require some amendment or alteration if any weak point is found. But the opposition has already served a notice that the bill must be repealed. We bespeak fair treatment for the bill. Give it a full and fair trial, and to this end we suggest that when this committee is discharged, their special work being done, that a committee of one from each county shall be appointed to look out for its interests, so that every feature of the bill shall be carried out, each committee making report of his findings to the chairman of the standing committee

on legislation. Your committee feel the importance of having every physician informed and interested in this new law; therefore we would advise that the addresses appended to this report as well as the act itself should be printed in our Proceedings. This as a ground work, with the information coming from the local committee, will prepare us for any assault that can be made upon the law.

You instructed your committee in 1890 to employ counsel and to incur any necessary expense. From the nature of the work to be done no contract could be made with Mr. Gross. So much was needed of him that on several occasions he asked to be relieved. We could not yield to his request. He has served us long and well, and without his efforts the measure would have been lost. The committee feel under great obligations to him and voted to pay him for his services. His answer to our offer of remuneration we append to this report, but with your permission will read it.

We need not suggest that our appreciation of his services should in some way be recognized.

All of which report is now respectfully submitted.

M. Storrs, M. D.,
Leonard B. Almy, M. D.,
C. B. Newton, M. D.,
Oliver J. D. Hughes, M. D.,
R. S. Goodwin, M. D.,
D. A. Cleaveland, M. D.,
L. S. Paddock, M. D.,
E. J. McKnight, M. D.,
N. E. Wordin, M. D.

The following resolution, presented by Dr. Cleaveland, was adopted:

Whereas, That in view of the prospective effort on the part of the opposers of the Medical Practice Bill, which has recently passed both branches of the legislature, to have the same repealed; therefore

Resolved, That the committee on legislation, by whose efforts the passage of the bill has been secured, be continued, and that

they have the same powers and instructions as they have acted under during the past two years.

A motion was made and passed that a committee of three, Doctors Stearns, Look and Irving W. Lyon, be appointed to present suitable resolutions acknowledging the services of Mr. Gross and all others who have assisted in the passage of the Medical Practice Act.

The committee reported these resolutions, which were adopted:

In recognition of the distinguished service rendered to the people of Connecticut by Charles E. Gross, Esq. in connection with the recent passage of the Medical Practice Bill by the legislature; and in view of the fact that this service has included many scores of conferences with the members of the committee which represented this society in securing such legislation; the drafting of the bill and subsequent modifications of it; the presentation of the most cogent of arguments in favor of its enactment; which latter has covered some years, and all of which has been done without compensation, and often with great personal inconvenience and sacrifice of business interests, and with such devotion to the welfare of all concerned as to render it almost if not quite unique in character; therefore

Resolved, That the Connecticut Medical Society hereby expresses its high appreciation of these services of Mr. Gross and begs to extend to him in behalf of its members and its constituency its thanks and congratulations, that this resolution be spread upon the records of this society and that a copy be suitably engrossed for presentation to him.

It was further provided, by motion, that the speeches of Mr. Gross, Dr. Porter and Mr. Warner be published in the Proceedings and that five hundred extra pamphlets of the same be prepared.

REPORT OF THE COMMITTEE ON PUBLICATION.

The Committee on Publication found indeed a Herculean task before it. So much material was on hand that it could not all be published. Aside from the work, then, of dealing with a

mass of material was the delicate matter of rejecting some portions of it.

The general plan adopted was to publish only one article from each writer. While this necessitated the rejection of some MSS. which would ordinarily be published, it was a happy solution of our difficulty. No one has expressed any dissatisfaction, however he may have felt it.

We have met with delays which were vexatious, to say the least. Neither the Committee nor its printer has been to blame. They could have had the work issued in October, in spite of its size. We were delayed in the first place by MSS. which were too valuable to be omitted and which could not be had sooner. We were hindered by extra and outside printing of the indexes, which the Company deliberately set aside for what would perhaps pay them better. But after our persistent pushing the book was issued, barely in time for the meetings of the County Associations. Although we have had so much to do with it and perhaps because of that, we feel proud of it.

The historical papers are valuable contributions to the history of our State. The indexes embody an amount of research, labor and expense surprising and rare under any circumstances; astounding when remembered that it is a labor of love. Only when search is made into these lists is their value seen. The Society should be most happy in having such.

The Committee has received letters of favorable comment both from within and without the State. And it certainly is pleasant to have one's labors appreciated and acknowledged. A thousand volumes have been printed. Besides the number sent to the active and Honorary Members, one copy is sent to the Medical Society of each one of the States and to various public libraries. The number of libraries and Associations asking to be placed upon our exchange list is continually increasing; gentlemen are purchasing copies for their friends.

The exchanges from the State Societies are making quite a library for us. During the year just gone we have had by way of exchange a regular file of the Medical and Surgical Reporter and The Annual of the Universal Medical Sciences for 1892, five volumes, edited by Dr. Sajous. Such a circulation should

surely stimulate us to make our annual publication, one ever growing in value.

While boasting of our book, elated with pride over its intrinsic value and its external appearance, we recognize the fact that the opportunity was ours, and that it will not come again for a long time; that we have made the most possible of it.

It is the duty of every member to make the Society a means of education, to make it attractive and desirable. And may our Proceedings always tend to this.

Thereupon Dr. G. J. Holmes offered a

RESOLUTION THANKING THE PUBLICATION COMMITTEE.

Resolved, That a vote of thanks be and is hereby extended to the Publication Committee for its arduous labors, in arranging and editing for preservation in permanent form, the valuable papers, historical and medical, contained in the Proceedings at the one hundredth annual convention of the Connecticut Medical Society.

The resolution was adopted.

Dr. Hazen, chairman of the Committee on Honorary Members, named Doctors E. L. B. Stickney of Springfield, Mass, David Webster of New York, and A. J. C. Skene of Brooklyn, as candidates for honorary membership.

The report was accepted.

The Auditing Committee reported that they had examined the vouchers of the Treasurer and found them perfectly correct.

The report was accepted.

A vote of thanks was given to the Treasurer for the manner in which he had performed his labors.

It was voted that a tax of three dollars be laid upon each taxable member for the year ensuing, and that seven hundred copies of the Proceedings be printed.

REPORT OF THE COMMITTEE TO CONSIDER RECOMMENDATIONS OF THE PRESIDENT.

Dr. Brayton, chairman of the committee, reported as follows:

We leave the earlier issue of the Proceedings to the Secretary, believing that he will do his best in the matter.

We recommend the appointment of some member as Librarian, who shall have charge of the library and make a report of its condition every year; that the Legislative Committee be continued, that they may act if there is necessity for it; and that the Secretary be made a permanent officer, with an increase of salary to one hundred and fifty dollars.

The report was received and considered *seriatim*.

Several motions were made regarding a Librarian, amended as many times, and finally a motion to lay on the table prevailed.

A motion was made to amend Sec. 8, Chap. II of the By-Laws, and to insert the words "one hundred and" before the word "fifty."

A motion to make the Secretary a permanent officer was lost, it being thought best not to change the present condition.

Dr. Russell presented the Society with some letters of interest, belonging to the latter part of the eighteenth century, and offered the following resolution:

Resolved, That the Society feels much indebted to Frederick Sheldon, Esq., of Newport, R. I., for two autograph letters of Dr. Daniel Sheldon of Litchfield, and one from Dr. Lemuel Hopkins of Hartford, and returns the thanks of the Society to him for the same, and will cause them to be deposited in its archives.

This was adopted.

Dr. Godwin also announced an addition to the gift of other letters from the same source now in his possession.

Dr. Mailhouse offered a motion that the Committee on Business be instructed to give priority to papers which had not been previously read.

Dr. Ingalls said that papers ought to be prepared for this Society, and that the Committee on Business ought to solicit and present original work.

Dr. Brownson said the Society would work best through the

County Associations. Dr. Hazen also discussed the matter. The motion passed.

A vote of thanks was given to the Committee of Arrangements for the satisfactory arrangements which they had made and the one hundred and first annual meeting of the President and Fellows adjourned.

N. E. Wordin, Secretary.

THE ANNUAL CONVENTION.

THURSDAY, MAY 25, 1893.

The meeting was called to order by the President in Good Will Hall at 10.30 A. M.

The first thing on the program was

THE SECRETARY'S ANNUAL REPORT.

Our Society begins its second century with a membership of 552, a net gain of thirty-two over last year. This is more than the average increase and is accounted for by the fact that last year, with all the added duties of the Centennial celebration upon him, errors were made by the Secretary in the sum totals of some of the County Associations and eight members from Hartford County were not put upon the list at all.

Perhaps, years which bring wisdom may attract some who have heretofore stood among us, yet not of us. There is reason for thinking this may be the case, because there are new members recorded this year who are graduates of some considerable standing in time. I note also the fact with pleasure, that quite a number of our new men are college graduates.

The membership by Counties is :

Hartford,	127,	a net	gain of	9
*New Haven,	157,	"	" "	11
New London,	45,	"	" "	4
†Fairfield,	102,	"	" "	5
Windham,	36,	"	" "	1
Litchfield,	32,	"	loss "	1
Middlesex,	35,	"	gain "	0
Tolland,	18,	"	" "	1
	552,	"	" "	32

The record is a creditable one. There is an absolute gain in

* The report last year was 152. The correct number was 146.
† Last report was 98: should have been 97.

every county excepting one. Only one county has a less number than last year.

The growth of the Society is a healthy one. Death is always busy among us. A few leave the State—five this year. Only two have been dropped from membership—a remarkable fact, and one which gives us reason to hope that the number who are unwilling to bear their share in maintaining the Society is henceforth to be very small. Yet reports from six counties give seventy-three names of members who are in arrears for taxes, while in two counties all are in arrears. There have been ten deaths:

Hartford County,* two—George W. Avery of Hartford; George W. Sanford of Tariffville.

New Haven County, one—Henry Pierpont, New Haven.

New London County, one—Elijah C. Kinney, Norwich.

Fairfield County, three—F. J. Young, Bridgeport; W. S Todd, Ridgefield; Henry Hungerford, Stamford.

Windham County, one—E. Dwight Kimball, Scotland.

Litchfield County, two—Henry W. Buel, Litchfield; W. W. Welch, Norfolk.

[Since the reports of the County Clerks were made Dr. R. W. Mathewson of Durham has died, and those who attended the funeral of Dr. Charles H. Pinney of Derby have scarcely yet returned.]

Among this list are two who have held the position of President of this Society, Dr. Buel having occupied the chair in 1873. The subject of his annual address was The Advancement of the Medical Profession. Dr. Buel became a member of the Society in 1855.

Dr. Elijah C. Kinney was active at the meetings of our Society until within a few years. He was President in 1886, and his address was on the subject of Diabetes Mellitus.

In my report last year I gave a list of thirteen who had had a continuous service of fifty years as members of our Society. With the turn of the century two of them have gone, Dr. W. Welch of Norfolk, who was made a member in 1838, and Dr. Rufus W. Mathewson of Durham, who joined the same year

*Dr. George E. Markham, reported as a member from Burnside, has been dead a number of years.

with Dr. Welch. Dr. Mathewson has helped the history-making of our Society by his Biographical Sketches of the original members of the Middlesex County Medical Association, read at the eighty-sixth annual meeting of that Society in 1877. Of the others who have died Dr. Henry Hungerford had been Surgeon-General of the State.

Five former members have removed from the State.

The list of new members, with date and place of graduation and present residence is as follows:

*Daniel F. Sullivan, A.B., Niagara University, 1891, Hartford.

*Arthur J. Varno, College P. & S., Baltimore, Hartford.

*Franklin H. Mayberry, University Vermont, 1885, Burnside.

*William H. Crowley, Buffalo Medical College, 1890, Collinsville.

Thomas J. O'Connell, College Physicians and Surgeons, Baltimore, 1892, East Hartford.

*Henry G. Varno, College Physicians and Surgeons, Baltimore, 1882, Thompsonville.

Walter G. Murphy, Albany Medical College, 1890, Granby.

John T. Dooley, University New York, 1887, Manchester.

Thomas H. Weldon, University New York, 1883, South Manchester.

Henry Doutteil, Yale, 1879, New Britain.

*Charles G. Rankin, M. A., Chicago Medical College, 1886, Glastonbury.

*James F. Donahue, University Vermont, 1892, New Britain.

R. F. Brown, Yale, 1892, New Britain.

Philip H. Sellew, Jefferson Medical College, 1890, Warehouse Point.

Austin B. Fuller, B. A., Yale, 1892, New Haven.

George S. Woodward, Ph. B., University Pennsylvania, 1891, New Haven.

Jacob M. Falk, Albany Medical College, 1884, New Haven.

Moses J. Husinsky, Yale, 1892, New Haven.

Edmund S. Thomson, College of Physicians and Surgeons, New York, 1892, New Haven.

Henry F. Klenke, University New York, 1892, New Haven.

Leonard W. Bacon, Jr., Yale, 1892, New Haven.

Paul S. Robinson, Yale, 1891, Stony Creek.

* Should have appeared in Proceedings, 1892.

Royal W. Pinney, College of Physicians and Surgeons, New York, 1888, Birmingham.

John L. Gartland, University New York, 1891, Meriden.

Alfred Ploetz, University Zürich, Switzerland, 1890, Meriden.

Myron L. Cooley, Buffalo Medical College, 1886, Southbury.

William P. Wilson, College Physicians and Surgeons, Baltimore, 1890, Wallingford.

Frank E. Coudert, Ph. D., University New York, 1890, Wallingford.

Patrick T. O'Connor, Bellevue, 1892, Waterbury.

Edmund P. Douglas, University New York, 1889, Groton.

Hiram B. Thomson, Trinity University, Toronto, 1888, New London.

John N. Dimon, Long Island College Hospital, 1883, New London.

Rush W. Kimball, Long Island College Hospital, 1890, Norwich.

Charles R. Hart, College Physicians and Surgeons, New York, 1859, Bethel.

B. De F. Sheedy, University New York, 1884, Bridgeport.

Russell T. Bishop, Bellevue, 1893, Bridgeport.

John H. Benedict, Licentiate Connecticut Medical Society, 1858, Danbury.

Nathaniel Selleck, University New York, 1889, Danbury.

Clayton P. Bennett, Physicians and Surgeons, New York, 1890, Danbury.

Dana P. Richardson, Harvard, 1892, Sandy Hook.

William P. J. Burke, Yale, 1890, Sandy Hook.

Rosavelle G. Philip, Woman's Medical College, New York Inf., 1875, Stamford.

J. Clifton Taylor, Michigan University, 1891, Scotland.

Frederick E. Raimselle, University Vermont, 1891, Wauregan.

W. W. Wellington, University Vermont, 1891, Terryville.

George N. Lawson, A. B., Yale, 1892, Middle Haddam.

H. T. French, Deep River.

T. H. Rafftery, B. A., Holy Cross College, Worcester, Stafford Springs.

Forty-eight in all.

It has been found also that a number of our Honorary Members should some time ago have been taken from our rolls.

Joseph Sargent of Worcester, Mass., died in 1888,
Gilman Kimball of Lowell, Mass., last July,
Nathaniel C. Husted of New York City in 1891,
William McCollum of Brooklyn in 1883,
Henry I. Bowditch in January, 1892,
Pliny Earle in May, 1892.

The last two were at one time active members. Some further mention should be made of them in our obituary notices, for they have given to us the honor of their names.

For these facts concerning them I am indebted to the careful and complete list made by Dr. J. B. Lewis. Our Society is certainly to be congratulated on having so painstaking and thorough an investigator in this difficult department of work. It has added very much to the value of the Centennial volume of our Proceedings. Nor should I omit to mention the historical addresses prepared with so much labor and care, which complete the record of the one hundred years.

The accumulations of the Annual Reports of other State Societies have made quite a Library which is now in the Public Library of the city of New Haven where it has kindly been granted a keeping. It needs very much its own Librarian to arrange and index and properly care for it. Besides these the Medical and Surgical Bulletin of Philadelphia and the Annual of the Universal Medical Sciences for 1892 have been sent to us by way of exchange for our Proceedings.

Following the centennial of the State Society the Hartford and Middlesex counties both celebrated theirs. In both, the exercises were public, consisting of appropriate addresses and personal accounts of the earlier members. Fairfield county in advance of either, marked the passing of her one hundredth birthday, in 1892. It is to be regretted, I think, that some of the others, still ante-dating these, should not have honored their age in a similar manner.

Your Secretary has now completed the term allotted his office by the By-Laws adopted last year. The Society has meantime grown beyond the ability of one man in active practice to attend properly to all its duties. Mistakes have occurred almost necessarily, because of the immense amount of work connected with it. For the kind indulgences, the many kind words of

approval continually manifested, I am exceedingly grateful. By a provision adopted last year there will be an Assistant Secretary, and with this division of labor it is hoped that the work will be in better form.

The publication of the By-Laws will materially help in this. Heretofore the younger members and even the County Clerks have been ignorant of their requirements and of their duties.

I wish to call attention to the fact that the office of County Reporter has of late years been much neglected. The able report of Dr. Fleischner, made in 1890, on Syphilis in the State, is almost the only one made by the Committee on Matters of Professional Interest in the State since the incumbency of your present Secretary.

In closing I cannot refrain from congratulating the Society upon its present flourishing condition. The beginning of its second century finds us united in one purpose—the advancement of the Society by the promotion of the science to which we have devoted our lives. Let us each take renewed interest, let us labor together, that the standard of medicine and medical education be elevated and maintained within our State.

The report was accepted.

Dr. Stanton next read the report of the Committee on Matters of Professional Interest in the State. This was a carefully prepared essay on the subject of the Menace to Public Health from Bovine Tuberculosis, showing much thought and research on the part of the Committee. A vote of thanks was tendered for the report, which was referred to the Committee on Publication. The discussion will be found immediately following the paper.

A motion was made by Dr. Cressy that a committee of three be appointed to take into account the extent, nature and character of this matter, and report to the next meeting. The motion was adopted, and Doctors Cressy, Wolff and Stanton appointed.

Dr. Wolff said he would like suggestions from the Society how they desired the work to be conducted.

Dr. Stanton thought the report made by the committee ought to be reported.

Dr. Lindsley, remarking upon the Medical Practice Bill, said

that efforts would be made against it at the next Legislature, and offered the following resolution, which was adopted :

Resolved, That this Society does hereby pledge itself to still further cöoperation with the Legislative Committee in all laudable efforts to promote the well-being of the public in every regard in which it is connected with medical science.

The reception of Delegates from other Societies being the next thing in order, they were called upon in the order of the Annual Announcement. The only States represented were Massachusetts and Rhode Island.

Dr. F. W. Chapin of Springfield was the first one to respond. He said he was sorry that Massachusetts was not represented by some one who could bring a more eloquent message. He was glad to be here and meet so many fellow-workers from his own native State. He congratulated the Society on the passage of a bill regulating the practice of medicine. In his own State spasmodic attempts had been made, but they had always met with defeat. The quacks had always secured the best legal talent and had influenced the legislators. Besides, the physicians themselves were not unanimous. Here the members of the Society are a unit. In Massachusetts some of the best men do not believe in a medical practice law. They maintain that a person has a right to buy and pay for what pleases him, whether it be a man who was yesterday a blacksmith or a woman who was a milliner. He presented thanks on behalf of the medical profession of the country for the manly course of Mr. Gross.

Dr. Philip K. Taylor of Kingston, Rhode Island, said he was pleased to be here and regretted there was not another member from his State. He joined Dr. Chapin in his congratulations. They had also tried a medical practice act in Rhode Island. It had failed in either one house or the other. They would try again. He had listened with pleasure to the discussion on tuberculosis. They had agitated the subject in his State and had awakened an interest in the laity.

Delegates to other State Societies were called to report. Dr. Wilson reported that he had been unable to go to Maine.

Dr. Howe could not go to Vermont.

Dr. Crothers remarked substantially as follows:

The Vermont State Medical Society had a very excellent meeting at Montpelier.

The President's address contained many very suggestive statistics concerning deaths in Vermont for the last thirty-four years.

In 1857 a law went into effect requiring clerks of school districts to send to the Secretary of State a list of deaths in his neighborhood and their causes for the year past. These records have been accumulating until they are now the oldest and most authentic of any vital statistics in the country. Consumption as usual leads all others, and the annual death-rate has varied but slightly from 650 to 850 a year.

Most of these deaths have been of persons from twenty to thirty years of age. In many cases such deaths have been confined to families and neighborhoods, suggesting a degree of infectiousness not hitherto recognized.

Typhoid fever has been fatal in from 100 to 500 cases yearly, but has notably declined during the past few years.

Diphtheria has varied most widely in mortality, and has been most fatal in winter. Over two-thirds of all deaths under ten years of age came from this cause. This disease is increasing and several physicians urged a closer inspection and isolation of suspected cases.

This address was replete with suggestive facts and urged the need of Boards of Health in every village in the state.

A very interesting discussion followed in which some remarkable facts were mentioned of the transmission of diphtheritic germs, and the diseases which followed from bad drainage and ventilation. Reference was made to a work on epidemic diseases of Vermont, published in 1815 by Dr. Gallup of Woodstock, as one of the first works on this topic issued in this country, and containing many interesting facts.

Many papers were read along this line of preventive medicine showing that the members were fully alive and abreast the front lines of these topics. A pleasant dinner closed the proceedings and evidently the faculty was united and prosperous far beyond the average Medical Societies.

A motion was adopted that the reports on Medicine and Surgery be referred to their respective sections.

Adjourned to 2.00 p. m.

At 2.00 P. M. the Convention again came together. The Dissertator not being present a motion was made that we listen to the Report on the Progress of Surgery which was read by Dr. T. H. Russell. Its discussion was postponed until the meeting of the Section of Surgery.

Dr. Keniston then read the Dissertation on the subject, Cardiac and Vascular diseases in Insanity. The paper showed a great deal of original research and was accompanied by a number of morbid specimens.

The convention then adjourned to meet in Sections.

N. E. Wordin, Secretary.

PRESIDENT'S ADDRESS.

OUR CLIMATE AND ITS RELATION TO TUBERCULOSIS.

Gentlemen—Fellows of the Connecticut Medical Society:

I wish to express to you my earnest appreciation of the unsought honor conferred upon me, and my thanks which I offer in the name of the County Association I represent.

I will occupy the time allotted to me to introduce to your attention a subject which has perhaps during past years received more study in the laboratory and at the bed-side than any other pathological investigation; the observation of a disease which has no geographical limits, but is frequent, more or less, among all the peoples of the globe.

Consumption, or more definitely, pulmonary tuberculosis, causes a greater mortality than any other disease in our northern climate, which is alternately tropical and frigid, especially that pertaining to the Atlantic sea-board and the great system of inland waters upon our northern boundary.

We have abundant evidence for believing that there are constant relations between the various meteorological phenomena and the prevalence of tuberculosis as cause and effect. As physicians, while trying to reconcile health with ignorance of its laws among our people, it is our plain duty to be sanitarians as well, because this is a most promising and fruitful field for those "who love their fellow men,"—because here we will find the ways of *averting* diseases which are difficult of cure. A study of the climatology of our country is important that we may be able to direct our tubercular patients to localities best suited to the individual, having regard to complication and stage of disease and financial ability to travel. Though the facilities for rapid and easy travel are great in any southward direction, the time is not yet when an invalid without adequate money is welcome at any establishment for the treatment of phthisis.

His best help will be from the warm and equably dry atmosphere, a minimum of humidity, and homelike surroundings.

Securing these, with well regulated habits, he has all that can be obtained from health resorts. There is no charge for sunny skies; nothing to pay for enjoying what is born of perpetual summer.

Persons of wealth and of a social nature would enjoy living in a more expensive manner at any of the great sanitaria.

But now we have in mind the great majority, who cannot afford to pay for what they do not need, but can afford to live as they do at home. He needs a native physician to instruct him how to meet the new conditions about him, how to dress and how to adapt himself to the new climate. This, with the slightest medication, is all that he need regard; and when if so fortunate as to recover, remain there! To return North would be to provoke a return of the disease, if hereditary; if primarily induced by harmful habits and occupation, with their correction the disease might not return on his coming back to these bleak hills of the North.

No locality should be chosen which is greatly limited in area as to altitude and dryness.

It is not needful that the patient should at once go to a tropical climate.

It is advisable that the best time to go South is before the September storms, reaching the South in season to enjoy the finest season of the year, which extends from the above time well into the winter months, when, to escape any of the chill and frost of winter, the invalid may go to Palatka or St. Augustine, where the air is warmer but not so invigorating as in the more Northern resorts. Probably the cases are few who find this necessary. The time for returning North should be as late as the last of May. It was once considered an act of the greatest imprudence for the invalid who had a fully developed tuberculosis to undertake a journey to Florida, or to any of the Gulf States, at the commencement of our Northern winter, and with reason at a former time when facility of travel could not be compared with that of to-day. Now there is no exposure and no especial effort; every want and luxury is anticipated so that the difference between their home and the palace and sleeping-car

will be chiefly that the latter is in rapid motion hardly realized; only as a pleasant sense that they are exchanging the coming winter for a more congenial climate.

Going South with the sun and returning with his return few are able to do, so for fullest benefit and permanent recovery they should remain. If the predicted time ever comes, invalids in Boston at evening, as a bird on wings, may in the morning breakfast at St. Augustine or at the Golden Gate.

This will be as nearly a possibility as another fanciful idea which Edgar Fawcett pictures: "That news the astronomers promised for to-night would be realized—the inhabitants of Mars at last would give intelligible sign to thousands who await it here on earth."

In Dr. Morland's "Florida and South Carolina as Health Resorts" he says: "This crusade after health is too frequently begun at the wrong time, imperfectly carried out when rightly begun." The patient will do wisely to inform himself as to the surroundings which await him in the proposed place of his sojourn, and also to assure himself of his ability to command comforts and attendance when among strangers.

The chief objection to sanitaria located upon or near the seacoast is the alternate dry winds of the mainland with the great humidity and chill of the ocean breeze. This condition of rapid alternation of temperature and humidity, with high and low thermometer during half the year upon our northeast coast, is a most prolific cause of the disease, to escape further development from which suggests removal to the land of the orange, the magnolia and the perpetual sun.

One advantage in favor of our southern and southwestern borders is in the fact that the invalid is still in his own country, under the same government, and can speak his own language. These are objections to Algiers, south of Italy, south of France, Egypt, Madeira and the Bahamas.

A sea voyage is hazardous to persons who are seeking recovery from a disease which has already reduced them to an invalid condition, on account of the long passage, stormy weather and the *mal de mer*.

The employment of climate as a means of arresting any fatal

tendency is not a practice of our time alone, but was practiced in earlier times.

When the air of ancient Rome became malarial from the Pontine marshes many resorted to health resorts upon the borders of the midway sea. Horace sings the praises of its healthful shores.

We should be able to intelligently and profitably choose a climate for those we direct to a health resort, that which has the least range of temperature, the least of humidity, the least of variable winds, the least of cloudy weather; a place where the residents themselves suffer the least from the disease—a place where sanitary conditions generally are favorable.

Every nation has its favorite resort. England has its Ventnor, a town on the south coast of the Isle of Wight, in the English Channel, sheltered from the north winds by high cliffs and facing the sun. France has its Cannes, a sea-port upon its southern coast famed for its salubrity of climate.

The physicians of the North are giving more attention to meteorology as related to this disease, that they may be able more correctly to estimate the various factors which constitute the most favorable climate, or to criticise advertising statements of any individual health resort. The number of so-called remedies for the disease under consideration has been very great. Each generation and each decade since its first written history has had its new treatment, based upon observation of apparent cure, and these published, tried by the profession only to be found wanting in curative potency or as a prophylactic. Now there is no confidence and no expectation that any treatment having a drug as a chief factor can remove the disease. The last experiment, that of Prof. Koch, in trying to poison out the disease, has resulted in a failure as great as the hope he inspired.

Climatic treatment has been resorted to successfully in various diseases, notably in malaria, by sending the person to a section of the country where it does not prevail.

An infant suffering from cholera infantum is taken to the sea-coast or the mountain to escape the intense heat of the city, which causes the disease. Yellow fever, a disease of the tropics, is avoided by going to the far North where it cannot prevail.

It is the popular idea that consumption does not prevail in tropical or semi-tropical countries—that it is confined to the

high latitudes. Along the coast-wise section of Mexico and the Central American States and coast lines of South America, even under the equator, the disease is common.

In the interior of Mexico, which is largely an elevated plateau remote from the coast, the disease is unknown except as it is brought from the coast—an illustration that the disease is arrested in its progress by a dry and equable atmosphere—that alternate dryness and dampness with slight altitude, which obtains upon all coast borders, does favor its development and continuance—a fact especially observed upon our Northeastern coast.

Here, each cardinal point of compass with its snb-divisions indicate all the kinds of weather known to the season. These changes follow in such rapid succession that it is often impossible to dress according to the weather. We may have the summer morning, as beautiful as roses newly washed with dew, and soft west winds—a torrid noon—its heat acting as a great dynamo generating electricity for the coming storm, a rainbow upon the eastern clouds, and a frost at night. A gentleman whose home is in the tropics, visited one of our Eastern cities. One day in spring he observed with surprise one of our panoramic changes. In the morning it was cold and cloudy: soon a storm was gathering. For the first time in his life he saw great snowflakes gently falling, then turning to a furious rain, then a mild wind blew all the clouds away: this followed by a sublimely beautiful sunset.

This reminded him, he said, of "a fickle woman, all tears one moment, all smiles the next."

The fact is familiar to us that the average warmth of our Northern summer is restorative in this disease. Hence the wisdom of the advice that the invalid should seek a climate which is mild the whole year round, where he can daily expose himself to the open air, which would be imprudent for him to do here.

Persons suffering from acute tuberculosis with an abnormally high temperature, with loss of strength, needing much quietude, should not take the risk of a long journey. There would be home-sickness and mental depression, lessening their chances of recovery.

We have a tear of pity for the helpless invalids in a strange land, nursed by stranger hands. They would suffer the loss of

that friendship, tender care, and tireless nursing which the family gave them, with all their wants so thoughtfully anticipated.

It is a mistaken idea that warm climates are unhealthy.

The people of the tropics are hardy and long-lived. Some of the greatest works of man have been done under a tropical sun.

In the more southern latitudes which we mention, we find that places of much altitude away from sea-ports are exempt from yellow fever, cholera and tubercular diseases. The dry mountain air of the South or South West is never harmful in uncomplicated chronic tubercular diseases. It is free from dust and other deleterious substances of a crowded population. Through the open window at night currents of fresh air sufficient for breathing purposes and ventilation are better than to chill the body with a great inrush of it. A surplus of air that passes through his room is of no additional benefit. He is naturally limited as to the amount of respired air. He is limited also in the amount of food. His stomach has a limited capacity but he should be most generously supplied with both.

Fresh air will not give him a chill unless previously subjected to the hot and much respired air of other persons.

It is the unfortunate habit of Americans that they endure, and do so without complaint and without the fullest sense of its harm, an atmosphere as found too often in all public places of so high a thermometry and so polluted with exhalations as to be a source of pulmonary disease.

To exclude pure air and offer instead that which is perceptibly impure is not in keeping with the constant care we have that our food, drink and surroundings shall have nothing to harm or offend us or our guests.

Water which by taste or analysis we discover to be impure, we reject but we take it from its purest source.

Our consumptive patients do best when constantly inhaling the purest air and have adequate woolen clothing.

"He has no need for rich windows which exclude the light."

"The common sun, the air, the skies to him are Paradise."

Said Herr Carl Wirnauburg, "You Americans seem to spend your winters in furnaces," as he sat letting a breeze through a Palmer House window to cool his brow.

"I don't see how you live under the artificial heat that I find every-where here; the New York hotels were ovens.

"If your meat was too rare, all that was necessary was to let it stand on the dining-room table a few moments. I asked the head waiter to bring me a thermometer as I sat sweltering at dinner one day—it registered 88°. With the heat that great in the summer time it would be quite intolerable. You sit in rooms that are guarded against any breath of fresh air from outdoors while you are dressed warm enough for an arctic winter. What wonder you shiver and cough when you get out of doors.

"The magnificent train in which I came here from New York was steam-heated and heated like a volcano.

"The hotels here are just as bad. If any one lives in such a temperature what wonder is it that your complexion is baked, that there is no color in your faces and that you die of consumption and pneumonia."

Dr. H. Peters of Saxony has published some very interesting and careful observations on the influence of the chief meteorological elements of climate on chronic diseases of the lungs, made by himself at Ottenstein fourteen hundred feet above the sea, where a large number of tubercular patients passed the summer under his care. The climatic elements of which notice was taken were the temperature, relative humidity and barometric pressure. In chronic phthisis and chronic catarrh aggravation occurred on the colder days and concurrently with a rapid fall in the mean daily temperature. It also occurred with a high atmospheric humidity. The days on which no aggravation took place were those with low relative humidity and a greatly diminished mean relative humidity, a prevalence of warm winds and a low percentage of ozone. A most complete sketch of the medical topography of the United States yet published we find in the American Medical Times. We allude to the report on the medical statistics of the United States Army prepared by Surgeon Richard H. Coolidge, under the direction of General Lawson, made from facts and dates which have been accumulating in the archives of the War department for many years—a complete exposé of the comparative prevalence of pulmonary consumption in the different regions of the United States.

From the consolidated table given, the annual ratio of sickness and mortality in different sections is shown:

Regions.	Mean Strength.	Number Treated.	Deaths.
Coast of New England	45.29	21	6
Harbor of New York	128.56	73	40
West Point	94.00	14	14
North Interior East	35.53	17	10
New Mexico	134.45	25	4
Utah	58.42	8	1

At West Point, of fourteen cases reported, all died. The least proportion of deaths to cases occurred in Utah and New Mexico, the interior of Florida and the South Atlantic States. We find that Utah and New Mexico present decidedly the most favorable report, and that reports from the Pacific States follow very closely. Utah stands out preëminently as the place *par excellence* for freedom from consumption, or if it occur, from death. Opposed to this we have out of a mean strength of 12,856 men stationed in the harbor of New York, seventy-three cases, out of which forty died.

On the coast of New England out of 4,529 twenty-one cases were treated. Of this number six died. In explanation of the mortality at West Point, it is stated that the cadets having comfortable homes to go to would naturally be discharged from the Academy at their request while suffering from incipient symptoms, only the incurable remaining.

Deaths from tuberculosis in Arkansas, Georgia, South Carolina, Utah, Colorado, are tabulated as only five per cent. while in the New England States the percentage of the annual number of deaths from this disease is as high as twenty per cent.

We have now the means of ascertaining with some degree of accuracy the cause of this mortality and death-rate, and to estimate the influence which climate has in relation to this disease.

Allowing that there are no people of whom we have a history between the poles and the equator who are entirely exempt from the disease, yet in countries having great areas of inland far

remote from the sea, with rising altitude, where a shifting of the wind is followed by no change of the thermometer, barometer, or of humidity, where for months there is no rainfall, where the only moisture is the nightly dew, where even the rivers become dry, where vegetation is only grown by irrigation, where for months the sun rises and sets in a cloudless sky, this lingering, incurable malady of the coast is unknown.

There physicians have no use for the stethoscope among the native people. They are familiar with the disease only as they are consulted by our coast-wise people, who go there to be benefited by the climate.

New Mexico, between thirty-one and thirty-seven north latitude, corresponding to that of North and South Carolina, is composed of lofty plateaus, traversed from its northern (Colorado) boundary by the Rocky Mountain range to its southern (Texas) line. The temperature is mild, seldom below the freezing point, and rarely rising to extreme heat in the more elevated portion, a clear sky and a remarkably dry atmosphere. The mean annual temperature of Santa Fe at seven thousand feet altitude is forty-eight degrees; that of Las Vegas at 6450 altitude, fifty-one degrees. Dr. Francis Atkins of Las Vegas gave some interesting statements relative to that State at the American Medical Association, held at Detroit last June.

He said that in the southern portion, of less altitude, the mean annual heat is from fifty-five to sixty degrees. A Signal Bureau analysis placed El Paso, Texas, and Fort Stanton, New Mexico, in a preferred list for least average cloudiness, with but twenty-nine and twenty-five days respectively per annum reported cloudy.

In one recent year Santa Fe was accredited with twenty-seven cloudy days, while Detroit had 123 and Chicago 116, while the proportion of days rated clear in New Mexico to days called fair, is immensely greater than in the lake cities.

Here is a very dry air, a vast amount of sunshine, a breeze that is never warped into cyclonic effects, altitudes from 3800 to 7000 feet, with towns providing constantly improving shelter and comforts for invalid visitors.

Visiting doctors wonder how the New Mexico physicians live, so meager is the practice afforded, so healthful is the climate.

The Las Vegas physicians have long spells of enforced idleness, when they cultivate philanthropy and the softer virtues. "During the past year many months saw our physicians but lightly employed, while our druggists were subsisting by selling perfumery and cigars.

"Cases with cavities, if not progressing too rapidly, on arrival will mend; but in the name of all honest Rocky Mountain doctors and tender-hearted lodging-house keepers let me beg that cases with advanced destruction of the lungs, high temperature and persistently rapid pulse, be not sent to this country, or at least not to the higher localities."

On the other extreme there is no better climate in which persons who are merely weak, or who are lacking in robust development, especially such as are of the tuberculous stock or markedly delicate families, may secure safety from phthisis and develop more robust bodies.

All who have lived here unite in pronouncing the summers nearest to the ideally perfect that they have ever seen. The air is so tempered by the dryness as not to be oppressive.

Sunstroke, like the cyclone and malaria, the flea and the musquito, are unknown.

In 1888 the population of the State was 160,000. Some of the cities are Santa Fe, with a population at that time of 7000; Albuquerque, 5000; Socorro, 4000. These places are active, with industries largely introduced by northern men with northern capital.

They are well provided with hotels for the accommodation of invalids from the North and East, easily reached by the Topeka and Santa Fe Railroad, which follows the Rio Grande river.

Two States, Arizona and California, intervene between these places and the Pacific coast on the west, Mexico bordering on the south. There are damp winds from any large body of water.

The Southern Pacific connects with the Mexican Central Railroad, leading to the great table-lands of Mexico, which are of an elevation of 7000 to 9000 feet.

The Pacific coast of Mexico is as prejudicial to consumptives as is the Mexican Gulf coast.

Dr. Denison of Denver, Colorado, who has made a study of the climatology of his State and other sections of our country,

in an elaborate paper upon this subject, with charts showing comparative humidities of different sections, represents the lake regions of the North and North Atlantic coast as having the greatest number of cloudy days and greatest rainfall, and the States of Arizona, Utah, Colorado and New Mexico as having the extreme of dryness during the winter months and least number of cloudy days during the ten years past.

The question of an altitude of immunity from phthisis is important because there is strong presumptive proof that those climatic conditions which prevail where phthisis seldom or never originates, are best suited to arrest the disease when it has commenced elsewhere. While altitude is a governing element, the associated conditions of dryness and sunshine seem to go hand in hand.

The effect of light upon man's physical well-being is analagous to the fructifying influence of the sun's rays upon the vegetable kingdom. He says that the contraindications to the great altitudes of Colorado and the bordering states are advanced age rendering acclimation difficult, valvular diseases of the heart with rapid action, marked and extensive emphysema, pneumothorax, active pneumonia or existing hemorrhage, high bodily temperature, extensive involvement of lung tissue so that the healthy spirometrical record is more than one half abridged: also the advanced stage of softening with marked pyrexia.

Allowing patients to go to Colorado, which physicians have done as a dernier resort when they have not a five per centum chance of living more than six months anywhere, needs our strong condemnation.

Enough has been presented to indicate that the preferable climate for phthisis is the dry, cool, rarefied, sunny and pure atmosphere of a well chosen altitude.

Colorado is a highland state between thirty-seven and forty-one north latitude, with mean height above sea level of 7000 feet. It has a remarkably regular and salubrious climate, nights cool without dampness, yearly mean temperature in southern portion, forty-three degrees. At Denver the mean temperature in July is seventy-four degrees. With its charming parks it may become a great natural sanitarium with its hot sulphur and other mineral springs.

Asheville in western North Carolina has the advantage of being nearer our New England people and is said to have a fine climate, somewhat remote from the coast, sheltered on the North by a range of the Alleghany mountains; population 12,000—pure water from mountain source—good hotels—two daily trains from New York via Washington—a sanitarium under the management of Dr. Carl von Ruck; altitude 2350 feet, latitude thirty-five degrees north. He gives the average temperatnre from May to October as 65°—for the other six months 49° The mean relative humidity during one recent year was 69% with the lowest average of 61% for the first three months of the year. Measurements for ozone have been made for the last three years and an average of fifty to seventy-five per cent. was recorded.

The climate of Aiken, South Carolina, is dry and tonic—in latitude thirty-three degrees, six hundred feet above sea level. It has numerous hotels for the accommodation of invalids and visitors, a porous sandy soil. The climate is characterized as snnny and dry. It is a suitable locality because of its slight altitude when tubercular disease is complicated with valvular disease of the heart, emphysema or hemorrhage, in the chronic form of the disease succeeding the acute form.

Much is said, and justly no doubt, of the pure and bracing air of Minnesota. The winters are very long with continuous low temperature, during which time those who are really invalid are obliged to confine themselves to indoors, a large part of the winter. Yet it is remote from oceanic influences. The altitude at Fort Snelling, near St. Paul, is 820 feet; at Fort Ripley, north-west, it is 1350 feet, latitude forty-six degrees.

It is stated that its wet season usually commences about the first of April and continues six months.

The records of mean annual precipitation, as kept at Fort Snelling, extending over a period of nineteen years, correspond nearly with that of New York.

To the consumptive, water is a divine gift only as a drink.

It is harmful in the form of mud or continuous fog, or "when it droppeth as the gentle rain from Heaven."

Prof. Bronson once said to his medical class, at a time when many people had gone daft with the absurd idea that water nsed daily as a bath or as often as they had strength to undress was

a cure for consumption, that if it was designed by nature that we should spend so much time in water we would be provided with webbed hands and feet.

It seems by the papers that Russian physicians are favorable to a cold climate in the treatment of phthisis. The Grand Duke George, the Czar's second son, has been under treatment for pulmonary disease in the mountains of the Caucasus during the winter. Only a moderate fire has been kept, while his windows have been steadily open. His medical advisers hold that this low temperature is very beneficial to their imperial patient and claim that the disease has been arrested, that the low temperature tends to destroy bacillus and prevent the forming of tubercle. The Russian bear loves the cold of his cold climate.

Prof. Orton gives the following account of the climate of the city of Quito, South America, which is 9,500 feet above sea level. Such is the clock like order of nature under the equator, that even the winds, the most irregular of all meteorological phenomena in temperate zones, tell approximately the hour of the day. They have an orderly march—the ebb and flow of an aërial ocean. Nobody talks about the weather, conversation begins with benediction or compliment.

Consumption is unknown—cases of inflammation of the lungs are rare. More coughing may be heard during a Sunday service in a New England meeting-house than during six months in Quito.

Phthisis increases as we descend to the sea. The various climates of Peru are changed by the measure of elevation and distance from the ocean.

Phthisis, he learns, is properly a product of the humid valleys of its coast. Nor is there in all this range of climate a locality in which phthisis is more prevalent than in Lima, its capital, a city of the tropics, on the Pacific coast, founded by Pizarro.

Dr. Archibald Smith, a physician of long residence in the mountain regions of that country, says that tuberculosis is little known to the native population except as imported to the highlands from the coast. Residing in the vale of Huanuco which is dry at an elevation from 6000 to 7000 feet above sea level, with the thermometer rarely throughout the entire year above 72° or

below 66°, he never saw a case originate in that locality. It is known only as an exotic.

But the cold, damp and variable atmosphere of the mining district of Cerro Pasco is unfavorable to the recovery of phthisis, also that in the hospitals in Lima three in seventeen die of phthisis.

He says it is a popular maxim in Peru that a change from the coast to the mountain climate, graduated as the case may require, will do more to restore health than all the drugs, and if this easy migration be too long delayed, confirmed phthisis will be the end of this disorder initiated on the coast.

Senor Anibal Cruz, secretary of Legation of Chile at Washington, informs me that "the disease is about as common in the southern portion of that country as in other countries, as it has a humid climate, but that in the northern and central provinces it is very dry and the atmosphere very pleasing at all times of the year; that pulmonary diseases are not common."

In point of mere temperature, so rugged a surface attaining an altitude of more than four miles within two degrees of longitude must present every possible variety. The rainfall graduates itself with something of mathematical regularity, from the cloudless skies of the north to the drenching clouds of the south of Chile.

In a communication from Dr. Emilio Echeverria of New York city, who is a native of Costa Rica, he states that within the last thirty years tuberculosis has increased to a great extent in Costa Rica, formerly only a few and well-known families being subject to it. He thinks its increased frequency may arise from intermarriage of tubercular families.

The fact is that phthisis is by no means an uncommon disease at the present time in that part of this continent. The following is an abstract from the Bureau of Meteorology relating to 1888 in San José, the capital of the republic:

"The average temperature in the open air was 66°, minimum 50°, while the maximum was 86°. The relative humidity was represented as 82% on an average. The principal towns are upon the coast, with a high relative humidity, and hardly one hundred miles of width from ocean to ocean. The country is mountainous, the climate mild and salubrious in proportion to the eleva-

tion, with a probable immunity from the disease up in the interior."

They have evidently, though he does not so state, the conditions that obtain upon the Peruvian coast borders, with the difference that Peru on the east has the width of the continent with its mountain altitudes more remote from the sea. Juan N. Navarro of New York city, who is familiar with the climate of Mexico, writes me in reply to inquiry on this subject, "that tubercular disease of the lungs is very common on the Gulf coast of Mexico, but very little in the interior on the table-lands where the temperature is very even and cool. A long experience has proved to me," he says, "that persons affected with tubercular disease in the incipient state not only prolong their lives but recover on removal from the sea-coast to the table-lands, or to the City of Mexico."

John Hurst, secretary of legation to Haiti, writes me that pulmonary diseases exist in Haiti, but are not prevalent. He explains that this is due largely to climatic influence, the temperature ranging from 60° to 76° in the winter months, and from 80° to 91° in the summer months; that the exemption is due also to out-of-door life. Like the birds we live in the air; our houses are built so as to afford full and continuous circulation of air. This island is in twenty degrees north latitude—remarkable for its summer climate and its unsettled government.

Hon. J. Mott Smith, of the Hawaiian legation, informs me that "there are no cases of tuberculosis in the islands except such as strangers bring with them; that for consumption or cases of bronchitis no place in the world is more favorable for improvement or recovery than the islands."

The climate of Hawaii is that of endless summer; it is never hot or rarely chilly. There is so little humidity that as a rule it is never sweltering. There is perhaps no other land on earth so sweetly, equably temperate.

The mercury monotonously creeps up and down an almost unvarying range of 55° in winter and 70° in summer for the early mornings, to a maximum of 75° in winter and 85° for the afternoon heat. Cold and hot waves are unknown.

In the native language there is no word to express the idea of

weather, because there exists no extreme of heat or cold. These islands, with a climate so favorable to the arrest of tubercular diseases, are beyond our reach, but they also illustrate the fact that equability of heat and moisture are not compatible with its development.

With a gallant spirit and magnanimity never before shown by a great nation, the United States now hesitates to adopt these islands as their own. The pleading of the Hawaiian princess as a poor, weak girl, begging for her kingdom, has had an effect.

Mark Twain once described these islands: "No alien land in all the world has any deep, strong charm for me but that one. No other land could so longingly and beseechingly haunt me, sleeping and waking, through half a lifetime, as that has done. Other things leave me, but it abides. Other things change, but it remains the same. For me its balmy airs are always blowing. The pulsing of its surf-beat is in my ear; I can see its garlanded crags; its leaping cascades; its plumy palms drowsing by the shore; its remote summits, floating like islands above the clouds; can feel the spirit of woodland solitude."

DISSERTATION.

CARDIAC AND VASCULAR DISEASES IN INSANITY.

CARDIAC AND VASCULAR DISEASES IN INSANITY.

BY J. M. KENISTON, M. D., CONNECTICUT HOSPITAL FOR THE INSANE, MIDDLETOWN, CONN.

An experience of over eleven years in the care of the chronic insane serves to confirm my belief that disturbances, functional or organic, of the heart, blood vessels, or circulation are very frequent; much more so than is commonly believed or admitted; and that they not only cause the death of a considerable number of the insane directly, but are very important factors in a large percentage of cases where death is due primarily to some other cause. It is also my belief that heart disease frequently complicates cases of phthisis, Bright's disease, epilepsy, paresis, chronic alcoholism, etc, among the insane; and that epilepsy specially favors the production of cardiac and vascular lesions. In my personal experience, which comprises seventy-two male epileptics, I have specially observed exaggerated and tumultuous heart-beat, persisting for long periods, and often followed by hypertrophy, and later by valvular diseases.

It is also my belief that chronic insanities tend to favor the production of functional or organic diseases of the heart and vessels, and this in cases where we can exclude other prominent causes of such disease, as e. g. rheumatism, alcoholism, syphilis, etc., and that they should therefore be considered as direct causes. Of course, if this belief is correct, it will follow that acute insanities may also act as causative agents in the production of cardiac disease but not probably to so great an extent.

There are three main points of view in which we may consider the relations of cardiac and vascular diseases to insanity: 1, as causes of insanity; 2, as intercurrent diseases, or complications, to which the insane as well as the sane are liable; and 3, as results, direct or indirect, of the insane state, and as direct or indirect (primary or secondary) causes of death. They may also

be considered in a practical or theoretical way, and the former will monopolize my time, as, apart from and beyond theories, however plausible or valuable they may be in their proper places, facts are certain, can be collated and presented in a compact and tangible form as a basis for further studies.

We will first look at cardiac and vascular diseases as causes of insanity, and are at once struck with the fact that we enter a region largely composed of theories. However, a few facts have been gleaned and perhaps others can put me on the track of more. In thirty-seven insane hospitals in this country (reports for 1890) only four give heart-disease as a cause of insanity, and they only give ten cases—three males and seven females. Doubtless some cases may be included under the heading of "other diseases" which appear in some of the reports. As far as I have been able to consult the reports of foreign hospitals the results have been equally meager. It seems to be the opinion, however, of numerous alienists, that heart-disease is a frequent cause of insanity. Dr. W. A. Gorton writes: "I have always regarded insanity as more frequently the result than the cause of heart-disease and vascular degeneration." Dr. P. M. Wise writes: "I believe that heart-disease is often the cause of insanity, more through some organic trouble leading to disturbance of circulation than any other way." Dr. Rogers writes: I am inclined to the opinion that cardiac trouble is often the basis of insanity." Dr. Fisher writes: "I think heart disease an important predisposing factor in the causation of insanity."

Dr. E. A. Down writes: "Received a case a short time ago, and upon close inspection was convinced that the primary trouble was a mitral insufficiency. The patient's sister called one day, and in conducting her to the patient's room found it difficult for her to walk up the stairs 'on account of her heart.' It seems that there is a history of heart-disease in the family, and the patient (who was not fortunate in her marriage) became at first hysterical, and finally, owing no doubt to the lack of a proper blood supply, the brain cells became incapacitated for their normal requirements, and the delusions and hallucinations following were the logical results of such a condition." Says Dr. Munson: "I believe that in predisposed individuals heart-disease, especially of the organic type, with an atheromatous con-

dition of the vessels, may occasionally be a causative factor in the development of insanity. Senile dementia is the principal form of mental disorder which we have found apparently due to disturbed circulation."

Dr. Hearder (Carmarthen Asylum) says: "Heart-disease appears to be extraordinarily frequent among the patients in this asylum. Nearly one-half of the inmates were so affected." Dr. Clouston, in his report for 1888, says: "We had an unusual number of cases under treatment this year where the mental disease had been caused by advanced heart-disease. The blood circulation of the brain had first become deranged in that way, and the mental working disordered thereafter. The patients where the mental disease is due to such direct physical causes are always interesting as suggesting that we shall one day be able to trace still more of our cases of insanity directly to physical conditions of the brain, and be able to cure them, as was done in some of the heart cases, by direct medical treatment."

Strumpell says: "Mental disturbances have been repeatedly observed in chronic valvular disease. They are the result of the disturbance of the circulation, and the consequent impairment of the nutrition of the brain. Hence they usually make their appearance in the last stage of heart-disease, at the same time with the other disturbances of compensation. The psychoses in heart disease most frequently have the character of melancholia, but conditions of excitement often occur."

Dr. Solfanelli of Rome gives a very interesting account of the connection between heart-disease and insanity. He records seventeen cases, which he had carefully observed, and concludes that there is some evidence to show that the molecular cerebral changes to which insanity is due must be owing to alterations in the capillaries of the brain. The circulation in the brain will naturally be affected by heart-disease. Thus cerebral anemia will be the result of aortic stenosis; venous congestion and edema will follow mitral regurgitation; but there is no apparent correspondence between the variety of cardiac disease and the form of insanity which accompanies it. On the contrary, Dr. Savage observes: "I have been impressed by observing many cases suffering from mitral disease also being subject to melancholy. With aortic, or both aortic and mitral disease the symptoms may

be either melancholiac or maniacal; but I am inclined to think that with simple aortic disease and with hypertrophy of the left ventricle it is at least not uncommon to meet with acute mania and exaltation of ideas. In doubtful cases of men with exaltation of ideas I expect to find post-mortem hypertrophy of the left ventricle and atheroma of the aorta, with more or less of brain change."

Says Van der Kolk: "Persons who suffer from hypertrophy of the heart, with enlargement of the carotids, and in whom more blood flows to the brain, are for the most part excitable and come easily into ebullition."

Dr. Fothergill says: "Many and pronounced are the modifications (mental?) induced by disease of the heart. Usually a totally opposite character is produced, and the mental operations become imperfect, unsustained, and unequal; while there are present suspicion, doubtfulness, vacillation, and caprice. Indeed, the mental change is usually for the worse, and along with the intellectual enfeeblement there is that alteration of the emotional products which we have seen to be allied to anemia."

Secondly, cardiac and vascular diseases are often seen as intercurrent diseases, or complications, in insanity. Bevan Lewis says: "It is of interest to note the constant and often profound implication of the blood in cases of adolescent and pubescent insanity, characterized by a notable degree of stupor," and gives cases illustrating forcibly the impoverishment of the red blood corpuscles in such subjects. Dr. Rogers says: "Heart-disease and insanity I have found to be very frequent concomitants."

The relations of epilepsy to heart-disease deserve some attention. The cases given by Dr. Godding in the Government Hospital Report for 1890 are very significant, and go far towards confirming my theory that heart-disease is common among the epileptic insane. He gives an account of thirty-nine autopsies in epileptics, classified under the heads of chronic epileptic mania and dementia. Under the first head he gives twenty-two deaths, sixteen of which, or fifteen males and one female, presented heart-disease. Under the second head he gives seventeen deaths, eleven of which, or nine males and two females, had heart-disease. Of these twenty-seven deaths, six, or 15.38 per cent., were directly due to heart-disease; twenty-one, or 53.85 per

per cent., presented heart-disease as a complication. As regards cardiac or vascular disease, the mitral valve was diseased in ten; the tricuspid in five; hypertrophy existed in eight; dilatation in seven; atrophy in four; fatty degeneration in four; and atheroma in two cases.

In the Connecticut Hospital for the Insane we have had only seven autopsies among epileptics, and hence it is not possible for me to add many statistics confirmatory of the above. Out of thirty-nine deaths there from epilepsy, we find five due to heart-disease and two to chronic atheromatous arteritis, or a total of eighteen per cent. It seems fair to infer that examinations in the remaining thirty-two cases would have revealed cardiac and vascular lesions to an extent sufficient to approximate our percentage to that of Dr. Godding. That such lesions might logically and probably result from epilepsy may reasonably be inferred from the experience and statements of various writers. Says Bevan Lewis: "None of the insane arrive at a more degraded level than the epileptic dement; in none does the physique undergo such degradation." Says J. Crichton Browne: "A terrible succession of fits prevents the adequate aëration of the blood, paralyzes the nervous centers, weakens the heart, and ends in a final cessation of the vital functions."

Esquirol has ably depicted the degenerative results of epilepsy. He refers to the puncta vasculosa after severe fits. At this point it may be well to allude to the tache cerebrale—considered a very significant symptom by Trousseau; its value denied or decried by most writers, but often found by me in cases where there is pressure or vascular disturbance in the brain.

Burman, in West Riding Report for 1873, says: "There is a remarkable relation between heart-disease and insanity. An examination into the state of the heart in the insane, as found after death and during life, shows that heart-disease in its various forms is exceedingly common amongst them." Bucknill "presumes that heart-disease is common among the insane." Griesinger, at an earlier period, thought "there was but average frequency."

There is a lack of available statistics showing fully the condition of heart and vessels on admission to asylums. Greenlees'

article is quite full. He gives a table representing "a total of 672 individuals—323 males and 349 females; of these, eighty-six, or almost thirteen per cent., had recognizable heart disease; and 294, or nearly forty-four per cent., had functional disorders of the heart—a condition in which the functions of the heart were not normal, although actual evidence of organic disease could not be obtained on examination. Under this heading we find—heart-sounds weak or irregular; rythm irregular; reduplication or accentuation of one or other of the sounds; heart's action loud or tumultuous, associated with a pulse rapid or abnormally slow, irregular or intermitting, weak or compressible. Functional derangements are more frequent in recent and acute cases; organic disease in chronic types of insanity, as dementia or imbecility."

The following table has been compiled to show the variations in statistics:

Author.	Cases Heart Disease.	Total Insane.	Per Cent.
Esquirol	11	68	16.
Calmeil	31	100	31.
Voppel	12	75	16.
Dufour	44	61	72.
Vienna Asylum	75	602	12.
Tuscaloosa	82	702	11.72
Alice Bennett	101	500	20.
Greenlees	86	672	12.94
Hearder	.....	.....	45.
Webster	.....	.....	12.
Bayle	.....	.....	16.
Lawrence	.....	.....	12.
Thyermann	.....	.....	14.

These figures illustrate the wide range covered by authorities whose standing is undisputed, but who had larger or smaller fields of observation, and show the necessity for further investigation before we can state exactly the prevalence of cardiac disease among the insane.

Lack of space prevents more than an allusion to the aneurismal alterations of the internal carotids, so ably studied by Meyer, Laufenauer and Schafer. Neither can I dwell specially

on other vascular lesions, especially atheroma. I must, however, just glance at the subject of aneurisms.

Dr. Worthington reports a sudden death from rupture of a thoracic aneurism in a case of melancholia. Patient never made slightest complaint of feeling unwell, and increased his weight two stone in sixteen months. He had no visible dyspnea, cardiac or pulmonary; no cough, no aphonia—he certainly spoke but little, but what he did say was distinctly audible—had no paralysis, and his adipose tissue proved beyond doubt that he had no dysphagia; and yet a post-mortem showed that for months he had had a large intra-thoracic aneurism, which must have exerted a certain and constantly increasing pressure on the surrounding vital organs. It was known that he had a weak heart, with probably fatty degeneration, but he had no valvular disease. This was verified at the autopsy. The diagnosis would have been surrounded with the greatest difficulty in a sane and intelligent person, but in a taciturn melancholiac it was impossible, and his death was thought to result from failure of the heart's action, due to fatty disease, until the autopsy showed the real pathological changes which had taken place. We have had several aneurisms at the Connecticut Hospital for the Insane, and a specimen will be exhibited

Dr. Mickle reports three cases, and Dr. Pilgrim one case, of spontaneous rupture of the heart in the insane—all in persons about seventy years of age. Dr. Greenlees has published a very interesting and exhaustive paper on our subject, and I will first give a brief summary of his results, so far as they bear on our present theme, meanwhile recommending a careful perusal of his paper, which may be found in the Journal of Mental Science, Vol. 31, page 327. Accompanying this will be a synopsis of results gleaned from various American asylums, besides an abstract of my own work at the Connecticut Hospital for the Insane, where I have carefully looked over the histories of over six thousand cases. In view of the labor involved in such a task I trust that no excuse will be necessary for the comparatively small amount of space occupied in this dissertation by original matter, as compared with that given to others, whose writings have been copiously quoted, my purpose being, not to exploit my own theo-

ries or results, but to present a fair, judicial, exact account of the accepted views up to date.

In 218 consecutive autopsies at the Cumberland and Westmoreland Asylum, diseases of the heart caused thirty-two deaths, or 14.67 per cent.; being third in frequency, diseases of the cerebro-spinal system coming first, with 32.56 per cent., and exhaustion from either senile decay or mental disease second, with 16.51 per cent. Tubercular disease of lungs caused 14.12 per cent On analyzing Dr. Greenlees' statistics it is interesting to note that in a period of twenty years the mortality from heart-disease was as low as 6.09 per cent.; whereas, in the following five years it rises to 13.51. In the five years were thirty deaths, or one to every 7.4 cases examined; and in 153 cases, or 68.70 per cent. of the total, the heart and vessels were not healthy, being sufficiently diseased to constitute a secondary, or more remote factor in the fatal issue. In thirty-three cases of paresis were three cases of "heart-deaths;" while in eighteen of the remainder, or over one-half the total cases, the heart or vessels presented changes more or less pathological.

Table showing proportion of deaths from heart-disease to total deaths in 109 Asylums, Great Britain and U. S. A.

Asylums.	Total Deaths.	Heart Deaths.	per cent.
31 English,	1,720	102	5.90
18 Scotch,	610	59	9.70
10 Irish,	568	37	6.50
C & W Asylum (20 yrs,)	591	36	6.09
" " 5 "	222	30	13.51
11 American,	7,401	403	5.44
37 " (1890,)	2,374	183	7.70
Conn. Hosp.,	1,437	168	11.69
	14,923	1,018	6.82

In explanation of the table, it should be stated that the eleven American Asylums reported in answer to correspondence, 7,401 deaths from the beginning. The deaths from thirty-seven American Asylums were taken directly from the reports for 1890. The deaths at the Connecticut Hospital, are taken from the beginning to April, 1893.

At the Connecticut Hospital for the Insane it was found that the direct cause of death was heart-disease in 168 out of 1437 cases. In 110 out of these 168 the diagnosis was verified by autopsies. In fifty-eight cases there was no autopsy, but the existence of cardiac disease was undoubted. This gives a per cent. of 11.69 to total deaths. Comparing all the figures given in the table, with the views of numerous observers, and it seems a reasonable and moderate estimate to infer that at least six per cent. of the insane die directly from heart-disease. Adding cases where cardiac or vascular diseases exist as a complication, and we immediately greatly increase the percentage, although precise figures on this point are not available as yet.

In regard to the form of heart-disease most commonly found, my own experience confirms that of others, that mitral disease heads the list; aortic lesions coming next, and then tricuspid. Pulmonary valvular lesions are very rare. Hypertrophy and fatty degeneration are quite common; dilatation and atrophy less so. It must be understood that in many cases more than one form of disease was found.

Finally, let us consider cardiac or vascular lesions as possible or probable results of insanity. On this point I am unable to present any positive facts, and must rely on opinions and probabilities, and on indirect evidence. It is a positive conviction on my part, honestly held, that maniacal excitement of great intensity and long duration; excessive emotional disturbances or perversions; impairment of nutrition; defective circulation, due to long continued and abnormal postures, indolence, depression, stupor, etc., apart from and beyond the tissue changes found in organic or alcoholic and other toxic insanities, are powerful factors in promoting first, functional, and later, organic lesions in the heart or vessels. If the condition of the body affects the mind—if the material affects the so-called immaterial, for mental action, on whatever molecular changes or cell-action it depends, is in its final action intangible, why should not the reverse be equally probable? If mental actions, emotions, etc.—either with or without conscious volition—can produce or cause physical (muscular) actions, why cannot mental disorder or disease produce or cause physical disorder or disease?

It is not within the scope of this paper to explain the precise ways in which insanity causes—if ever—cardiac or vascular disease, even if the ability were present. Insanity, like other diseases, usually arises from several causes, and on the other hand it alone may not be the cause of heart disease, but only, perhaps, the chief factor. Permit me, then, at once to fortify my position, so far as time allows, with the opinions and experience of some recognized authorities. Bevan Lewis says, speaking of states of depression: "Both sensorial and motor functions are sluggish or in abeyance, and the functions of organic life are all depressed. The vitality of the organism, as a whole, being largely dependent upon the activity of the nervous centers, must necessarily suffer when this important regulative system is deranged; the condition is truly one of devitalizatiou—life is carried on at a lower level." "The innumerable impressions which must arise momentarily throughout the organism during the healthy activity of all its tissues, its muscles, bony framework, viscera and vascular apparatus, form in their aggregate what are termed the sensations of organic life. Many of them, such as the visceral or muscular, have phases of 'unfelt sensations,' or at least sensations not discriminated from the vast mass of sensations created by the functional activity of the body at large, with periods of emphatic expression, *e. g.*, hunger and thirst. The 'unfelt sensations,' however, rise into prominence in morbid states of the system, and we then get those intensified organic sensations which cause much discomfort, and contrast with the normal massive feeling of well-being." "Go a little further and you have disease." Lewis also says: "Although, in a certain proportion of cases, especially in alcoholic and senile subjects, and in the maniacal excitement of general paralysis, we note considerable injection of the vessels of the head and neck, with a suffused aspect of the face, the great majority of maniacal subjects exhibit marked pallor of the face, the skin, generally, also, being of a yellowish tinge, unctuous feel and foul odor. The pulse is small, somewhat frequent, and the heart's sounds are often muffled."

Griesinger speaks of the heart's sounds as being "indistinct during a paroxysm of excitement and becoming clear during moments of calm."

Says Dr. Hunt: "The disordered condition of the ganglionic system in the insane is evidenced by such marked symptoms that it would be indeed surprising if we did not find a pathological condition of the pulse. The sluggish circulation through the peripheral capillaries is rendered evident by the passive congestion of the hands and feet, and the white line bordering the edge of the lip, observed both in melancholia and mania, and attains its maximum when the patient relapses into the most profound dementia; the frequent attacks of local hyperemia, which in some cases are sufficiently intense to result in rupture of the vessels, and to produce that remarkable appearance known as hematoma auris, can only be attributed to the disordered action of the sympathetic system, while the altered condition of all the secretions, both cutaneous and intestinal, must be referred to the same source." "A diseased condition of the nutrient vessels of the brain is one of the most frequently observed facts in cases of mental disorders." "Emotional excitement also modifies the cardiac rythm and produces a kind of intermittance."

Corvisart believes that frequent excitement, especially the depressing passions, will give rise to cardiac hypertrophy.

Dr. D. Hack Tuke, in his interesting work on "Illustrations of the Influence of the Mind upon the Body in Health and Disease" —a book which will well repay perusal—gives numerous instances where intellectual and emotional action or disorders produced bodily disorders and diseases, including those of the heart and vessels. He quotes Tissot as asserting "that dilatation of the heart and aorta has been caused by anger and chagrin," and gives references.

I can only allude to a valuable paper in which Dr. Lange discusses at length the question, "What effects have the emotions upon the bodily functions?"

Dr. Payner says: "In the asylum post-mortem room nothing was more striking than the extent to which heart-disease could go on under the healthy conditions of asylum life." Dr. Sankey "had investigated the conditions according to statistics of diseases of the heart in connection with ordinary insanity," and Dr. Burman's paper had gone into the subject, but "he could not find

anything like unanimity of ideas upon it," although Dr. Burman had proved his case that "in ordinary insanity there was a greater tendency to disease of the heart than in the population generally."

Says Dr. Alice Bennett: "That which is at first a disordered functional activity leads, at no very distant day, in the brain as in other organs, to interstitial changes and an altered tissue, with impaired functions."

Dr. Loomis says: "Anything which increases for any length of time the rapidity and force of the heart's contraction may produce hypertrophy." "Emotional conditions that produce cardiac palpitation and prolonged mental excitement are also causes of cardiac hypertrophy." Delafield and Prudden say: "Any cause, whether muscular or nervous, which increases the rapidity and force of the heart's contractions, may produce hypertrophy." Now, it is well established that hypertrophy, while at first compensatory, later becomes pathological, and in its wake often comes valvular disease. Terminal dements in a very large proportion become corpulent. May not this fact explain the frequency of fatty degeneration in this class?

Dr. Dufour has tabulated autopsies in sixty-one cases, demonstrating the frequency of diseases of the thoracic and abdominal viscera in the insane. "In seventy-four per cent. changes were found in the heart. In some cases the heart-disease preceded the mental affection; in others, as the result of prolonged disorders of innervation, changes were induced leading to chronic inflammation or fatty degeneration. Of lesions of the heart, mitral disease was much the most common, the valve being simply thickened in seven cases, and atheromatous in twenty-three, and as a rule is accompanied by diseases of the other valves and muscular tissues. In fourteen cases there was fatty degeneration or simple hypertrophy. The right side of the heart rarely presented any abnormality beyond simple dilatation. Gall-stones were of frequent occurrence." It is of interest to note in connection with our theory that Dr. Bradlee has written a paper in which he virtually claims that "insanity favors the production of gall-stones, finding them in eighteen out of fifty consecutive autopsies, at Colney Hatch Asylum, or thirty-six per cent. In sixteen of these cases there was hypertrophy, dilatation, or valvular dis-

ease, as well as atheroma, specially marked in arteries at base of brain."

Phthisis is by some considered as a neurosis, and Trousseau declares that "angina pectoris is a form of epilepsy."

Tissot holds that emotional states may produce, in time, more or less hypertrophy. Greenlees, reasoning from this, thinks that "long-continued mental excitement must cause a dilated and later a hypertrophied heart;" an opinion confirmed by his own findings and those of others. That insanity produces heart-disease is demonstrated by the experience of Salemi, Pace, Fothergill, Mickle, Griesinger, Clevenger, and others. Says Kiernan; "Pace and Fothergill agree that in states of emotional excitement or exaltation cardiac murmurs, especially of the aortic valves, are frequent. I have also noticed temporary murmurs in the cataleptoid state of katatonia. These facts prepare us for the demonstration that the emotional perturbances of the insane result in so disturbing cardiac nutrition as to produce changes in the walls and valves of the heart."

While starting with the preconceived opinion that insanity, especially by prolonged motor excitement, violent emotions, perverted nutrition, vicious habits, etc., is an important factor in the production of disease in the heart or blood-vessels, healthy prior to the onset of mental disease, it has been my effort to subordinate my beliefs and views to facts, and to assume in the matter a judicial position, marshalling facts and opinions against as well as for my theory.

To sum up, then, the annual reports of insane hospitals, as a rule, give few statistics or details as to heart-disease as a cause of insanity. They also rarely give it as a complication. Hence, at present, it seems to me that while the general sentiment of alienists is in favor of the theory that cardiac or vascular diseases are important factors in the production of insanity, sufficient evidence to fully establish this theory is not yet available.

In regard to cardiac and vascular diseases as complications or intercurrent diseases more evidence is available, although rarely in a tabulated form, but even here there is a great deficiency, and it is my hope to eventually collect all the statistics possible,

and tabulate them, in addition to a complete summary of the literature of the subject.

Concerning cardiac and vascular diseases as causes—direct or indirect—of death, reports are sadly deficient in statistics, but here, at any rate, the evidence already at hand is ample to establish, at least, a strong probability. My own experience is that they exist in a large majority of cases where an autopsy is held.

REPORT

OF THE

COMMITTEE ON MATTERS

OF

PROFESSIONAL INTEREST

IN THE STATE.

THE MENACE TO PUBLIC HEALTH

FROM

BOVINE TUBERCULOSIS.

REPORT OF COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST.

THE MENACE TO GENERAL HEALTH, ARISING FROM BOVINE TUBERCULOSIS.

About a year ago the attention of one of your Committee was directed, in the report of Dr. Charles H. Fisher of Providence, in compliance with a resolution of the General Assembly of Rhode Island, on "Tuberculosis and its Prevalence among Neat Cattle of Rhode Island," to the following statement:

"Conference and correspondence with the veterinarians of the State furnished information which, while disclosing differences of opinion as to the amount of prevalence of tuberculosis among the neat cattle of their respective localities, was, as a whole, much more definite and confirmative of its actual presence than that given by the cattle-owners and cattle-dealers. The veterinarians of Providence county (comprising mainly the eastern half), in regard to the probable proportion of the milch cows above six years of age affected with tuberculosis, in a greater or less extent, in comparison with the whole number of such animals, varied in every thirty-five or forty to one in every ten; or, in other words, of from about three in every hundred to ten in every hundred. The estimated proportion for the rest of the State, making an average of the various opinions, was that of about four in every hundred. In Massachusetts, the State veterinarian estimated the proportion of milch cows above five years of age affected with tuberculosis in some degree at ten in every hundred.

"The estimate was for the section of the State east of the Connecticut river. Other veterinarians in Massachusetts estimated the proportion at from five to ten in every hundred. In Connecticut, the estimates by the professionals were rather less than those given in Rhode Island.

"In the northern tier of New England States the veterinarians seemed to entertain the opinion that while there was an occasional outbreak at some foci of infection, at very infrequent intervals and long distances apart, and from no clearly obvious cause, there was at the same time and all the while no diffused distribution throughout the State. It would be hardly courteous to assume that it might be possible that self-interest, so potent and so coherent in the human mental constitution, could unconsciously affect or qualify the opinons given."

The significance of such a statement from such a source can hardly fail to impress us with its grave importance, when we consider the intimate relation which the bovine race sustains to the human. As one author puts it (Dr. E. R. Brush, Mt. Vernon, N. Y.): "We are veritable parasites on this animal; we milk her as long as she will give milk, and we drink it; then we kill her, eat her flesh, blood and most of the viscera; we skin her and clothe ourselves with her skin; we comb our hair with her horns and fertilise our fields with her dung, while her calf furnishes us with vaccine virus for the prevention of small-pox. Strange it would be, indeed, if under all these circumstances we did not acquire from her some malady; she has tuberculosis and we have tuberculosis. Certain it is she does not acquire it from us."

Virchow says: "Man is far more susceptible to the diseases of animals than the latter are to similar diseases from man."

If this partial testimony of the condition of things is true of New England, what is the condition elsewhere? According to Lydtin, Flemming and Van Herzen, in their "Influences of Heredity and Contagion on the Propagation of Tuberculosis," the disease is met wherever cattle are kept in a state of domesticity. It is seen in Russia, Sweden and Norway, in Denmark, Germany, Holland, Belgium, France, Spain, Portugal, Austro-Hungary, Greece, Italy, Algeria, Australia, New Zealand, the Danubian principalities, the Northern United States and Canada, also in Mexico.

According to these authorities, tuberculosis is, of all the maladies affecting the domesticated animals, that which is the most wide-spread, and which, of all others, most deserves the qualification of universal panzoöty—World Plague.

According to Krabbe, it is almost unknown in Iceland, and Stenstroom states that it is very rare in Polar countries, in the north of Norway and Sweden and in Lapland and Finland, where, nevertheless, the cattle are small and weak and often rachitic.

The frequency of the disease increases as we approach warm climates. The cattle of Holland and Switzerland often contract tuberculosis when carried to Spain, and nearly all those sent from these two countries to colonies in the equatorial zone are attacked by the disease. In Italy, tuberculosis is a veritable scourge to agriculture [Perroncito], and in Algeria it is not less prevalent than in Italy. A cold climate is then far less favorable to the development and propagation of tuberculosis than a warm or tropical one. According to Flemming, five per cent. of all the bovines in England are infected. According to Prof. R. A. McLean, a much larger per cent. of the cows in the Northern States are afflicted: indeed, according to his statement, as many as twenty per cent. among the thoroughbred Jerseys.

Now, with this large percentage of tubercular cows, if it is true that tuberculosis is communicated from the bovine to the human race, and considering our close relationship to the animal, why are not more of the human race killed by the disease?

There exists, according to Lynt, a true parallel between bovine and human phthisis; the curves of double mortality are the same for different districts in the Duchy of Baden. This must mean that a larger proportion of the bovine race dies from phthisis than of the human race, because of the difference in the length of life in the races. We have no statistics of this kind in the United States, but Prof. McLean says that when cows are affected by tuberculosis in great numbers the death rate from phthisis is correspondingly large in the human race in the same districts.

That is his observation from his large experience among diseased cattle.

Now, from what has preceded, we are easily led to these pregnant questions:

Are human and bovine tuberculosis identical in their nature? If so, is the bovine transmissible to man; and what are the means of this transmission?

With the *results* of Koch's investigations as to the essential principle in the causation of tuberculosis, it is not necessary to go into any extended account of his *experiments*. Suffice it to say that from his researches Koch concluded that "the presence of Bacilli in the tuberculous masses constitutes not only a concomitant fact in the tubercular process, but that it is the cause; and that we should see in the Bacilli the cause of tuberculosis—a cause which had hitherto been only suspected, and which presents itself to us in the form of a vegetable parasite."

Further, Koch also found these same parasites in ten animals affected with tuberculosis, and which had calcareous nodosities in their lungs; several times he has discovered them in nodules in the peritoneum, as well as in the bronchial and mesenteric glands. He also found them in three cases in which the lungs did not present those characteristic nodosities with rounded surfaces, which are observed in ordinary tuberculosis; in these cases in the lungs there were spherical nodosities with smooth-walled cavities, filled with thick, pulpy and caseous matter. This is a form which is not usually regarded as tuberculosis.

The facts established by Koch have been confirmed by all the investigations of the principal authorities in mycology and pathology. These facts have not yet been seriously contested, and they demonstrate that, with regard to etiology, human tuberculosis is identical with that of animals.

The researches of the illustrious Berlin savant possess the great merit of having again drawn attention to the consumption of the flesh and milk of phthisical animals, as well as to the care to be observed in vaccinations. In addition to the facts furnished by the discovery of Koch, which has settled the question as to the identity of human and animal tuberculosis, reference should be made to the valuable investigations in this direction by Villemin and Klebs, who arrived at the same conclusions.

Is bovine tuberculosis transmissible to man; and what are the means of this transmission?

It can readily be understood that experiments to prove the transmission, by inoculation, of tubercular phthisis from animals to man, with the object of producing tuberculosis, must be excessively rare. In fact, no record of any such experiment has

been found; but that bovine tuberculosis is communicable to human beings, as well as to animals, there can no longer be a question of a doubt. The experiments and observations of such investigators as Villemin, Klebs, Gerlach, Chauveau, Bagge, Sumner, Gunther, Zürn and others, prove conclusively that the injection of tuberculous matter, or of the flesh of phthisical cows, or of the milk of a tuberculous cow, has been followed too generally by tuberculosis in the animal experimented upon for it to be longer a doubtful question.

Klebs has been successful in producing tuberculosis by giving animals milk from those which were diseased; and his experiments, therefore, have an extremely important bearing. The results of his experiments led him to the conclusion that the use of milk from phthisical cows is always fraught with danger, and he asserts that the tubercle virus is present in the milk of phthisical cows, whether they are slightly or gravely affected. This conclusion, however, has not been universally accepted, some declaring that only such milk from tuberculous cows is infectious when the udder is involved.

This question, however, would seem to have been settled by the results of experiments by Dr. Harold C. Ernst, [Harvard], which we find given in the American Journal of Medical Sciences for November, 1889, in an article entitled "How far may a cow be tuberculous before her milk becomes dangerous as an article of food?" He says: "If it be considered already settled, and Koch's dictum be accepted, that there is no danger in the milk, if the mammary glands be not affected, then there remains only for the veterinary surgeon to determine the existence of such lesions, and restrictive measures can go no further. If however, the milk from cows with no visible lesions of the lacteal tract be shown to contain the specific virus of the disease in a not inconsiderable number of cases, and if this milk be shown to possess the power of producing the tuberculous process upon inoculation in small quantities and in feeding experiments carried out with every possible precaution, then restrictive measures must have a far wider scope, and be carried on from an entirely different standpoint than has hitherto been considered necessary.

"It is familiar to most of us that little importance has been

attached to this question—the danger of milk from tuberculous cows with no lesions of the udder—for the reason that many experiments have been made with negative results, and because *a priori* reasoning would seem to indicate the absence of such danger; because tuberculosis is not a disease like anthrax, in which the specific poison is to be found in all parts of the system, and is carried from one place to another by the blood-stream. Koch's assertion that the milk from cows affected with tuberculosis is dangerous only when the udder is involved, appears to be based upon theoretical considerations rather than practical work in this direction. It has been widely accepted, however, and the weight of his name has caused the assertion to be repeated many times with but few attempts to verify its correctness."

It is not necessary here to enter into an extended account of Dr. Ernst's experiments, which were made possible through the liberality of the Massachusetts Society for the Promotion of Agriculture, with the assistance of the Society's veterinarian, Austin Peters, D. V. S., and also of Dr. Henry Jackson and Langdon Frothingham, M. D. V. A series of careful, exhaustive and thoroughly painstaking and scientific experiments were undertaken, the results of which show:

1st. That the milk from cows affected with tuberculosis in any part of the body may contain the virus of the disease.

2nd. That the virus is present whether there is disease of the udder or not.

3rd. That there is no ground for the assertion that there must be a lesion of the udder before the milk can obtain the infection of tuberculosis.

4th. That, on the contrary, the bacilli of tuberculosis are present and active in a very large proportion of cases in the milk of cows affected with tuberculosis but with no discernible lesion of the udder.

There are so many cases on record which go to prove that human beings are frequently infected with tuberculosis through the milk or flesh of cows that it is simply idiotic to disregard the obvious deduction.

Not alone, however, by the ingestion of flesh and milk is the transmission of tuberculosis rendered possible. In Koch's eti-

ology of this disease, referring to the source of tubercle bacilli and means of infection and propagation among animals, he says: "The animals, as is well known, produce no sputum, so that during life no tuberculosis bacilli get from them into the outer world by means of the respiratory passages." The experience and observation of James Paige, V. S., Massachusetts Agricultural College, has proved differently. He says, "That, while they may not produce what we term sputa, as applied to the human production, consisting of pus and mucus coughed from the lungs to the mouth and then expectorated, they do have a discharge from the nostrils which in many cases contains the bacilli. This material has the consistency of mucus, is slightly stringy, and steel gray in color. Under the microscope pus-cells are rarely found, showing that the material does not come wholly from broken-down tubercles in the lungs, but is probably mucus from the bronchial tubes. Stained cover-glass specimens show numerous bacilli."

He has diagnosed several cases of the disease in cows by this means, when other pathognomonic symptoms were wanting.

This material coming from the nostrils may become spread about the manger, getting upon the woodwork or the feed in the immediate vicinity of the animal. The bacilli are set free by drying and become mixed with the dust of the stable, which is frequently set in motion by the moving of hay, sweeping, etc.

The particles of dust, with tubercle bacilli attached, floating in the air, may be inhaled into the lungs by both man and beast.

From the fact that in cattle in the greater proportion of cases the disease first develops in the lungs or the neighboring lymphatic glands, Dr. Paige concludes that it is mainly propagated by the escape with the mucus from the nostrils, and that the principal method of infection is by inhalation of the dry bacilli.

What have we learned so far? That tuberculosis is common to cattle among nearly, if not all, civilized nations. That the essential virus of human and bovine tuberculosis is identical.

That bovine tuberculosis is transmissible to man through ingestion of flesh and milk and by inhalation of bacilli-laden dust.

Now what is the remedy, if any? The public are startled and uneasy at the prospect of an invasion of cholera, and the General Government and State Legislatures pass laws for quarantine,

while State Boards of Health bestir themselves to educate the people as to the best preventive to ward off the horrible intruder.

But here is a more deadly foe, constantly at work among all civilized peoples, and claiming from one eighth to one fifth as its proportion of the death-roll year after year. To stamp it out is manifestly impossible, but if this proportion is maintained to any degree by the presence of the disease in the cattle, which supply us with food and drink, then every person in the State has an interest and a right to demand protection at the public expense from this deadly foe. To quote, "If the State takes upon itself the task of protecting the public from the sale of adulterated food, which is of pecuniary interest, ought she not to protect the people from the 'innocent' and wilful sale of milk and meat from diseased animals, that may convey a fatal disease to the unsuspecting ones using it."

It would seem that this could be accomplished best by two means.

"First.—Organize a system of meat inspection, have all cattle in the State used for food slaughtered under competent inspection.

"To do this economically, centralization of the slaughtering is absolutely necessary. This would not only protect the public against tuberculous meat, but also against trichina, tapeworm, actinomycosis, etc. Let all meat be condemned, whether there be local or general inspections.

"Second.—To prevent as much as possible the sale of tuberculous milk, let at least all the larger dairies in the State be visited periodically, and all animals carefully inspected. Any that are actually diseased should be destroyed, and the suspicious should be isolated until known to be diseased or healthy. From the fact that the public is so dependent on domestic animals for a part of its food-supply, it is no more than right that the Government should make some move in this matter of protecting the public against a disease that may be transmitted to them by the consumption of meat and milk of diseased animals."

Committee on Matters of Professional Interest in the State.

{John G. Stanton,
Walter H. Holmes,
James B. Gregory.

REFERENCES.

KOCH.—Etiology of Tuberculosis.
Test for Tnberculosis.

CRESSY.—"Natural History of Tuberculosis." (From Report of Sec. Conn. Board of Agriculture, 1887.)

BRUSH,
Mt. Vernon, N. Y.—Bovine Tubercnlosis.

CLAPP.—"Is Consumption Contagious?"

CREIGHTON.—"Bovine Tubercnlosis in Man."

LYDTIN, FLEMING, VAN HERZEN.—"The Influence of Heredity and Contagion on the Propagation of Tuberculosis, and the Prevention of Injurious Effects from Consumption of the Flesh and Milk of Tuberculous Animals."

ERNST.—Tuberculous Milk.

BILLINGS.—Tuberculosis in Cattle.

SPIER.—Tuberculosis.

PAIGE.—Tubercnlosis.

The paper elicited much discussion, in which Doctors Wolff and Cressy were the principal participants.

Dr. Cressy said he was glad to hear so able a paper on the subject. The contagion of tuberculosis had been disputed by the medical men of the country, and the identity of the tuberculosis of man and animals had been doubted. Now it is settled that they are both identical and contagious. To prevent the spread of the disease presents a grave difficulty—greater than

was supposed a few years ago. He wished the Cattle Commissioners of the State could have been present and heard the paper. It is necessary to have Dr. Stanton's suggestions carried into effect. The State Board of Agriculture, and the State itself, should take the matter in hand. Dr. Stanton has pointed out what should be done. The Hatch experiment bill provides for an investigation into the condition both of plants and animals. Nothing has been done. Nothing has been done anywhere outside the bureau at Washington. Provision for the work needed is made in the Hatch bill. This should be done at New Haven and Mansfield, in connection with the State Boards of Health and of Agriculture, and our own Society. Investigation should be made and regular reports published. Few medical men are living as if they believed in these truths. The public demands of us, as physicians, that this work be taken in hand, and that we use beneficially the funds which are ours to use.

Dr. Wolff said that the Hartford County Medical Association appointed a committee to investigate the presence of bovine tuberculosis in the State. That committee consisted of Doctors Lyon, Beach and Wolff. They made a thorough investigation and obtained specimens. He made the pathological investigations. The report was made at the County meeting, and was read at the Centennial. That dealt alone with the pathological portion. His results agree with those of Dr. Ernst's. In tuberculosis of the cow, it is not necessary that the udder should be diseased. Some cows in Stafford Springs were found saturated with the disease; one had a retropharyngeal abscess from which was evaenated one quart of pus. The lungs were saturated with bacilli. The mammæ were sound both macroscopically and microscopically, in spite of the fact that bacilli were found.

Tuberculosis is present in this State to a considerable extent. There is no doubt about it. I believe the percentage is larger than Dr. Stanton stated in his paper. I cannot agree with the writer, that tuberculosis prevails more extensively at the South than at the North. The reverse is the case. It is the duty of the profession to take the matter in hand, to restrict and limit the disease in the State. The diseases in man and cattle are

identical. In proportion as tuberculosis is prevalent in man, so bovine tuberculosis is prevalent in various parts of the country; and as tuberculosis is more prevalent in the northern and eastern parts of our country, so bovine tuberculosis is more frequently found in the same parts.

Dr. Stanton explained that the statements made were from foreign sources, as there were none to be found on this side the water. All these tables show that there is greater susceptibility to the disease in warmer climates.

Dr. Wolff replied that his committee looked thoroughly over the reports throughout the country. In the North and East, where human tuberculosis is more prevalent, there was a larger proportion of cattle affected.

Dr. Carmalt stated that the human race are more liable to the pulmonary than any other form of tuberculosis. The milk is taken into the stomach. Do experiments show that pulmonary tuberculosis is contracted through the intestinal tract?

Dr. Wolff replied that authorities differ on the point of the identity of human and bovine tuberculosis. The tubercles mass themselves like bunches of grapes. The course of degeneration and repair of tuberculosis in the cow is different from that in man. In the cow the tubercular process undergoes a calciform degeneration. There are immense masses of a carbonate of lime deposit. In the center of them were thousands of bacilli, which took the stain first, the same as human bacilli. There were several cases where the cows had healthy udders, but the bacilli in the milk caused *tabes mesenterica* in the child. In such cases the tuberculosis is traced to tuberculous milk. Sajous, in his Annual for 1888, gives a long account of a child six or eight months old, belonging to a healthy family, which had *tabes mesenterica*. The physicians traced the disease to a tuberculous cow which had a sound udder. Cultures were made and injected into a rabbit with the result of developing tuberculosis in it.

There is not so much danger from tuberculous meat. The proper cooking of meat destroys its infection. There is danger of feeding infants with tuberculous milk. That is the cause of tubercular disease in children.

Dr. Newton—Would Dr. Wolff suggest treatment of the milk?

Dr. Wolff—A temperature sufficient to destroy the bacilli is one thing; a temperature sufficient to destroy the spores of the bacilli is another thing. There should be continuous sterilization—a sterilization made once and repeated. It is the province of the medical profession to take hold of this matter.

Dr. Newton—It is a popular idea that if the milk is boiled it is harmless. In the light of Dr. Wolff's remark, it would seem to be a question if the popular idea is correct.

Dr. Wolff—It requires a higher temperature to destroy the spores of the bacilli than the bacilli themselves. It is the province of the physician to investigate this subject. Infected animals should be destroyed.

Dr. Newton—If the milk shows absence of tuberculosis, is that an indication of freedom from the disease in the cow?

Dr. Wolff—No. The cow may be saturated with bacilli and there be none in the milk. The trouble is in the *technique* of staining the bacilli of tuberculosis. It is a complicated process. There are two methods. To separate the bacilli takes time and is difficult.

Dr. Cressy—Suppose we examine the milk and find no bacilli; might not some one else find them? I would question three, four or even five examinations. Mesenteric tuberculosis is as common as that of the lungs. Hundreds of cows in the state are growing poor on the best food, with all the symptoms of disease. They are studded all over with clusters of these grape-like masses. They are calcareous. It spoils a knife to cut into the substance. I believe you will find the bacilli more common in the milk when the udder is involved.

Dr. Wolff—I would like to say to the men who live in the country, it is a fact discovered in our investigations, that tuberculosis is more common in the better bred cattle, and that at the outbreak of the disease the milk is increased in quantity. Such milk is very dangerous.

Dr. Cressy, while discussing the question further, stated his belief that four or five per cent. of cattle affected by the disease was a large one. If one in every five was affected, a plague would be upon us. The increase of milk spoken of is due to the stimulus of extra feed. The cow begins to fail and repine and the feed is shoved in.

Dr. Paddock—When such diseased beef is destroyed what becomes of the carcasses?

Dr. Cressy—They are buried.

Dr. Paddock—Is there not danger that the germs will pollute the soil and the water?

Dr. Wolff—The tubercle bacilli are not so frequent in the meat as in the other parts of the animal.

Dr. Cressy—In boiling the milk repeated sterilization is necessary. One boiling will kill the bacilli but not the seeds. The boiling hastens the generation of the spores. Another boiling further destroys them and still another may kill.

SECTION

OF

GENERAL MEDICINE,

OBSTETRICS AND HYGIENE.

SECTION OF GENERAL MEDICINE, OBSTETRICS AND HYGIENE.

President—Irving W. Lyon.

Vice-President—L. S. Paddock.

Secretary—E. K. Root.

The Section was called to order at 3.30 Thursday afternoon, May 25th, Dr. Lyon in the chair.

The program was carried out as nearly as possible according to the order printed in the Announcement.

Dr. La Pierre read his paper, The Conception of our Society.

Dr. McCabe's Blindness in Early Life was read by title, the writer not being present.

Dr. Heady also being absent, his paper on Nephritis was read by title.

The paper on Pneumonia, read by Dr. Turnbull, drew out some discussion.

Question by Dr. Lyon—What did Dr. Wainwright say about Pneumotoxine, after seeing Doctors Welch and Osler in Baltimore?

Dr. Turnbull—There they have not used the injections on man. On animals its action is so violent that they are afraid of it. In Philadelphia, however, they used it once on man with good results, taking the serum from whipped blood.

Dr. Parsons lamented the fatalities from pneumonia, which, it would seem, are largely due to lack of agreement as to methods of treatment. He recited the method of one country physician who blistered freely and repeatedly, and gave alcohol and carbonate of ammonia in large doses. Recoveries were almost uniformly secured. Dr. Parsons advised keeping accurate clinical histories, with notes of treatment, with a view to future comparisons and a more uniform treatment.

Dr. Lyon was excused from reading his paper, which he stated was a tabulated case.

Dr. Fleischner read his paper on The Treatment of Syphilis, and was followed by Dr. Eliot with one on Typhoid Fever.

The others, The Treatment of Cholera, and The Use and Abuse of Cathartics, were read by title.

The Section adjourned at 6.30 p. m.

E. K. Root, *Secretary.*

THE CONCEPTION OF OUR STATE SOCIETY.

BY JULIAN LA PIERRE, M.D., NORWICH.

GENTLEMEN: Thinking it well to pause on the threshold of the second century of organized medicine in Connecticut, and to take a retrospective view of the century just completed, I invite your attention for a little time that we may, even if in an imperfect way, become better acquainted with those who have gone before, earning for themselves the well-merited distinction of being the pioneers of practice on the medical highways of our little State.

This, I know, will be no easy task, for I am well aware that to entirely understand a man, and fully appreciate his work, we must be in sympathy with his day, and familiar with his surroundings; whereas, but few of *us* can go back in memory to the days of saddle-bags and nights of tallow dips.

It may well be matter for congratulation to you and me, that it was primarily through the persistent and persevering agitation of the subject of professional protection by the physicians of New London County, that the Connecticut Medical Society came into existence. The first petition bearing upon the subject, of which we have any record, was made to the General Assembly of the Colony of Connecticut long before Connecticut had become a State, and bore the signatures of eleven physicians living in Norwich and immediate vicinity.

The original paper may be seen among the Archives in the State Library, and when found relates in part as follows:

"*To the Honorable General Assembly of the Colony of Connecticut to be Held at New Haven the second Thursday of October next*—

The Memorial of us the Subscribers, Physicians in said Colony Humbly sheweth That whereas life is the most Desirable of all Sublunary Enjoyments and Health so Invaluable a Blessing that without it in some Degree Life is little worth And that the Promoting Medical Knowledge among Physicians is the Necessary and direct means to Restore health and even Preserve Life and is of great Importance as it will Render The Practice of

Physic more safe and serviceable to the Patient And at the same time yeald more Satisfaction and Honor to the Profession—

"And whereas more than one hundred years have already passed away since the Planting this Colony and Nothing has been Publickly done to Distinguish between the Honest and Ingenious Physician and the Quack or Empirical Pretender by Reason of which Imposture and Imposition has been and is still but too Commonly Practiced among us to the great Injury of the People as well as the Disparigement of the Profession.

"We your Honors Memourialists would therefore humbly pray your Honours to Take the Matter under your wise Consideration and Order Enact that the Physicians in each County in this Colony for their Mutual Edification and Instruction do have Liberty and Power To meet Together in their Respective County's at such time and Place as they shall Appoint once in three months and at the First of such their Meetings choose a Committee of three or More approved Physicians to Continue for the Space of one year and Annually to be Chosen such Committee for the time Being to have full power to Examine and if found duly Qualified Approve such Candidates for the Practice of Physic who shall offer Themselves for Examination. * * * * * *

"Or otherwise Enact and order some proper regulation for the Practice of Physic as in your Wisdom shall be thought most Proper And as in Duty bound Shall ever Pray Dated at Norwich The 27th day of Sept[r] 1763.

"Theophilus Rogers,
Joshua Downer,
Cyril Carpenter,
Ph[p] Turner,
Obadiah Kingsbury,
Joseph Perkins, Physician,
Elisha Tracy,
Moses Morriss,
John Barker,
Elisha Lord,
Ebenezer Robinson."

This somewhat remarkable Memorial, with its lamentable disregard for all the rules of punctuation and lavish assumption

of capital letters, failed most ignominiously of making any impression upon the Honorable General Assembly, judging from the summary way it was disposed of, since we have no further light upon the subject beyond the following paragraph:

"In the Lower House the Question was put whether anything should be granted on this Memorial. Resolved in the Negative. "Test,

"Abrm. Davenport, *Clerk.*"

It is to be presumed that a large majority of those who took any interest in the matter at the time this petition was drawn had passed on beyond all realization of "sublunary enjoyments" long before the consummation of their hopes, since but three of the above subscribers ever lived to see their names enrolled at the incorporating of the State Medical Society. Those three were Theophilus Rogers and Philip Turner of Norwich and Joshua Downer of Preston

But this is hardly to be wondered at when we recall that an interval of twenty-nine years had elapsed, and that in that period the American Revolution, with all its antecedent party passions and subsequent uncertainties of government organization, had passed into our national history.

This Memorial was no type-written inspiration, but was the work of some good old quill that had formerly adorned a Norwich goose.

Printing presses were few and far between, as is evidenced by the fact that Eleazer Wheelock, a clergyman who was then conducting a charity school in that part of the town of Lebanon known from its outlines as "The Crank," years after set off to Tolland county as the town of Columbia, in giving to the public his first "Plain and Faithful Narrative" of his school, sent to Boston to have the pamphlet printed. The Dartmouth College of to-day was the outgrowth of Wheelock's Indian school.

The originality of the Norwich Memorial is made more impressive when we stop to consider that at the time of its presentation there was not an incorporated Medical Society in the Colonies; the degree of M.D. had not been conferred on this side of the Atlantic and neither could it be, for there was not an organized medical school in the land.

To be sure, Dr. William Hunter had given at Newport, Rhode Island, as early as the years 1754–5–6, lectures upon anatomy, and Dr. William Shippen had commenced at Philadelphia a course of lectures upon anatomy and midwifery, accompanied by dissections upon the cadaver, to a class of ten or twelve students in 1762, which was the first systematic course of lectures upon medical subjects ever delivered in America. But the first Medical School in the Colonies was yet to be established and was established by the authority of the trustees of the College of Philadelphia in 1765, while the first medical degrees were conferred by the Medical School of New York, connected then with Kings, now with Columbia College, where in 1769 the degree of Bachelor in Medicine was conferred upon Samuel Kissam and Robert Tucker, the latter gentleman the following year receiving the degree of Doctor in Medicine.

There were none in the Colonies bearing the title of bachelor or doctor in medicine save a few who had brought their honors across the sea from where they had been earned in the universities of England, Scotland or Ireland.

Medical journalism here was practically unknown, for we have every reason to believe it was an extremely limited number of journals printed in Europe that found their way to this side of the Atlantic, while it was not until 1798 that The Medical Repository was issued at New York, the first journal in this country devoted to the interests of the medical profession.

Medical literature in any form was extremely scarce and the few volumes that were offered for sale were proportionately expensive when found.

There was not a hospital or a dispensary in the thirteen colonies though pestilential fevers stalked unforbidden wherever they found fuel to feed upon and the border wars had populated the towns with cripples.

Of material for medical observation there was a deep and rich sub-soil, but between the tares of piratical superstition upon the one hand, and the stones of tyrannical puritanism upon the other the young medical aspirant in colonial times was destined to encounter many obstacles that would cramp and distort his professional growth till little wonder he early saw and realized the pressing necessity of legislation to separate the wheat from chaff.

Then, as in those early days of the Christian era, when the Divine physician tramped over the hilly roads of Palestine, some seed seemed to have fallen among thorns and in stony places, yet sprang into life possessed of an individuality that turned aside all obstacles, developing a maturity whose characteristics are as enduring as the odor of musk and, let us trust, that their memory will be as stimulating.

Among the earliest memories of my school-boy days is one of a certain page upon which was depicted the Temple of Knowledge surmounting an exceedingly steep and rocky hill, while down in the left-hand corner, very near to the margin, was the figure of a youth expressive of all the eagerness and pedestrious qualities so aptly portrayed by the lad we ofttimes see pictured as carrying "a banner with the strange 'device, *Excelsior.*'" Frequent reference to the aforesaid page may have been the means of inspiring me in some degree with a desire for knowledge as I jogged along those frosty winters after the youth in the tunic; but, if my memory serves me well, I found every inch of the road, in the language of those far-away days, "pretty hard sledding;" yet, looking back to the school-boy days of Theophilus Rogers, Joshua Downer and Philip Turner, mine must have been gala days with a skating rink extending right up under the portal of the temple.

In their times the education of half the lads in the country ended with the district school, if they were so fortunate as to live where they had one, while a few of more propitious parentage passed on, perhaps, to some seminary kept, perchance, by some minister who was famous in a way, most likely by being regarded as a feeder for Yale or Harvard.

In England those were days of Puritan austerity, and the boy who exchanged home for school too often left behind him peace and happiness. The lives of little Paul Dombey at Blimber's, and Smike at Dotheboys' Hall, were not so very far beyond comparison; for rigid discipline, hard fare, long sermons, with extended prayers, and now and then a flogging, was the common lot of the school-boy. His master knew no way of imparting knowledge but by the rod, and he was forced to sit eight hours a day and six days in the week on the hardest of oaken benches, poring over Cheever's Accidence, or trying to commit to memory

long words in Dilworth's Speller; his reading lessons were long chapters in the Bible, and he was expected to learn by heart Dr. Watts' hymns for children; the Catechisms, the Lord's Prayer and the Ten Commandments were to be at his tongue's end when the school was honored by visitation; he went to bed at sundown to get up at sunrise, to live upon beans and brown bread, pork and porridge, and bowed his head while divine blessings were being invoked upon the same.

The appliances of the modern teacher were wholly wanting. Maps and charts, with globes and models, were an unknown quantity in the school-room, while making smooth the rough paths formed no part of the master's duty. He sharpened quills and wrote the copy, often wielding a hickory scepter, a miniature monarch with absolute proclivities.

When a profession was chosen for the lad, his medical education was generally such as would be acquired while serving an apprenticeship to some noted practitioner in Boston or New York, during which period he combined the duties of a student with many of the menial offices of a servant. He ground the powders, rolled the pills, held the bowl when the patient was bled, spread the plasters, helped sew wounds, and ran with vials of medicine from one end of the town to the other. In his leisure moments from these professional duties he swept the office, cleaned the bottles, and when a feast was given stood in the hall to announce the guests, as has been told us in the Life of Dr. John Warren.

It was only by filching from graveyards that anatomical subjects could be obtained, a grewsome pastime that was frequently attended or followed by more than enough risk and excitement to make it ordinarily interesting for the poor student as evidenced by what has been handed down in history as the Doctor's Mob.

One Sunday morning in April, 1788, there occurred a most serious riot in New York, in which John Jay, Baron Steuben and a number of other prominent citizens were injured.

The rioters became so outrageous, that both the civil and military authorities were summoned to quell the tumult, and many medical students were confined in the common prison for protection against the wild passions of a populace that set at defiance

for two days both the civil and military authority of the city.

The advantages to be derived from a course of medical reading could be but sparingly enjoyed by the student of the past century when but few physicians could boast of a medical library of more than twenty-five or thirty volumes.

Dr. Leveritt Hubbard, the first president of both the New Haven County Medical Society in 1784, and the Connecticut State Medical Society in 1792, was, perhaps, the most wealthy practitioner in his county, if not in the state, yet, when he died, his books were valued at eighty-two dollars.

The doctor's knowledge, under such circumstances, was derived more from personal experience than from books, and the amount so obtained must have been proportionate to the acuteness of his powers of observation and the strength of his memory.

His apprenticeship being completed our semi educated lad returned to his native town to assume the practice and follow in the footsteps of his father, where as the years went by he grew in popularity, if not in wealth, and, with the exception of the minister, and the judge, soon became the most important personage in the parish.

The two exceptional personages had attained their preëminence through the majesty of the law, the one by divine assertion, the other by civic process, for wherever new settlement was made the organization of church and court was the first consideration of the settlers, medicine being relegated to the day of absolute necessity and then to be accepted from whatever source it came. But that day was sure to come, and in due course of time, won for the humble practitioner no mean share of public recognition, until in the language of a popular writer of American history, "his genial face, his engaging manners, his hearty laugh, the twinkle with which he inquired of the blacksmith when the next boy was expected, the sincerity with which he asked after the health of the carpenter's daughter, the interest he took in the family of the poorest laborer, the good nature with which he stopped to chat with the farm hands about the prospect of the corn-and the turnip-crop, made him the favorite of the country for miles around. When he rode out he knew the names and personal history of the occupants of every house he passed. The far-

mer's lads pulled off their hats, and the girls dropped courtesies to him. Sunshine and rain, daylight and darkness, were alike to him. He would ride ten miles on the darkest night, over the worst of roads, in a pelting storm, to administer a dose of calomel to an old woman, or to attend a child in a fit. He was present at every birth; he attended every burial; he sat with the minister at every death-bed, and put his name with the lawyer to every will."

The physician of that period had to perform the duties of both doctor and apothecary; for frequently his saddle-bag was the only drug store within many miles, and he was forced to pound his own powders and decant his own tinctures, while the rafters of every attic were hung with bunches of home-gathered herbs, from which he was to order nauseous infusions and loathsome decoctions.

Quinine was unknown until 1850, yet mercury stood within the gap, while Jamaica rum was the most potent anesthetic the age could boast; but with the few simple drugs he had at command, he was ever ready to meet the enemy, and that with all the courage of a Roman gladiator, when, if he did not win the laurel chaplet, it was not for lack of energetic treatment or blood depleted.

The world, as yet, knew not the fascinating influence of homeopathy or eclecticism, but cow-doctors and squaw medicine-men supplied the needed pabulum for the over credulous.

The story comes down to us from colonial days that a gentleman, whose servant was ill from some intestinal obstruction, applied to one of those equine philosophers for professional aid, rather than to go a longer distance to get it from a reputable source.

After hearing the gentleman relate the symptoms in detail, the barn-yard practitioner offered the following advice: "If it was a horse I should know how much to give, and would say a good half pound of Glauber salts; a quarter pound, I think, will do for your man Tom." Meeting the gentleman upon the road some days following, he of the barn-yard ventured to inquire:

"Did you give Tom the Glauber salts?"

"Oh! yes."

"Did they operate?"

"Faith they did—five times before death and four times after."

No doubt many cases equally as grave, if not as phenomenal, helped to impress upon the minds of our forefathers the necessity of medical legislation. If so, one might be excused for wishing Glauber salts to be a favorite prescription during the session of the present legislature.

As far as I know, we have no record that there was any permanent medical organization in New London county previous to the establishment of the State Society, yet evidence remains that there was concerted action upon the part of those engaged in practice, and meetings held from time to time, especially of those living in the good old town of Norwich, some eighteen years before the incorporating of the State Society.

In the *Connecticut Courant* of April 12th, 1774, may be found an account of a meeting of the physicians of New London county, held at Norwich some weeks previously, at which meeting "the plan was proposed of having the physicians in their respective counties at once call their brethren together to choose committees to represent the several counties at a general meeting to be held at Mr. Bull's tavern on election day, that the matter there may be taken into consideration, thoroughly discoursed on, and suitable methods taken to complete the thing proposed by the physicians of this county."

This was printed as a call to the physicians throughout the colony, and was signed by Joseph Perkins, Elijah Tracy, Benj. Gale, Eleazer Mather, John Barker, Theophilus Rogers and Philip Turner. In the next two issues of the *Courant* appeared a call to the physicians of Hartford county to meet and choose a committee to "meet and discourse" at the time and place suggested in the call from New London county.

Nothing ever resulted from the proposed meeting of the said committees from the several counties, unless it was to foster and nourish the spirit of organization, which was then becoming general throughout the colony.

It is to be presumed that when election day came, the members composing the General Assembly, found matter for consideration of more import to them individually than the regulation of Practice or protection of practitioners, since it is to be remembered

that those were tumultuous days, when but a few months had elapsed since the Sons of Liberty had emptied the English tea into Boston harbor, while minute-men were being organized all through the country.

The kettle, no doubt, was already boiling that sent delegates to the first Continental Congress, which was held the following September at Philadelphia.

Before another election day came around the battle of Lexington had been fought, and it was not long before some of the best men in the profession were joining the Continental army.

Soon after the close of the Revolution, the New Haven County Medical Society was founded, and then again, in 1787, the Legislature was asked to incorporate a State Medical Society, but the bill, like its predecessors, failed to pass.

Other County Societies then became established, until finally in May, 1792, the Connecticut Medical Society received its original charter.

The act that incorporated the State Medical Society provided that the physicians and surgeons living in the several counties should have the liberty to meet on the fourth Tuesday of the following September, in their respective counties, "and when so met, they shall have authority by their major vote in such respective meetings, to determine the qualifications, and admission of their own members, and the persons who shall thus be admitted, shall have authority to make a choice of a chairman and clerk, to conduct the affairs of such meetings."

Simon Wolcott, of New London, was the one appointed to give notice of hour and place of meeting in New London County, and thus became the first clerk of our County Association.

We have no record of where the meeting was held; we only know that on the appointed day the names of forty-five gentlemen were enrolled as members, and that Dr. Theophilus Rogers was chosen Chairman, and Dr. Simon Wolcott, Clerk. There is no evidence that there was any other business transacted at that meeting beyond that it was "Voted that Doct. Theophilus Rogers, Doct. Samuel Mather, Doct. Thomas Coit, Doct. Joshua Downer and Doct. Philip Turner be our Delegates to the General Convention."

Two weeks from that day the delegates from the several coun-

ties met at Middletown and, agreeable to charter, the Connecticut Medical Society was partially organized.

I state *partially*, for this meeting was adjourned to a meeting held at Hartford the following May, at which time and place the organization was completed.

Of the forty-five names enrolled in New London county in September, 1792, forty-three were returned to the Hartford meeting in May, 1893, that number being our membership today.

Thus we come to see that of the eleven gentlemen who affixed their names to the Memorial presented in 1763, three only lived to have their hopes realized; and those three were *honor* men, for they composed a majority of the first five Fellows sent out from the New London County Association.

Trusting that I have substantiated my claim that it was the practitioners of New London county that took the initiative step, and were preëminently instrumental in procuring the organization of the Connecticut Medical Society, I will devote the remainder of this paper to their individuality.

Dr. Theophilus Rogers, we judge, must have been a man possessing considerable influence in the community, since his name was both at the head of the Memorial presented to the General Assembly in 1763, and the list of members admitted to the State Society from New London county in 1792.

We do not know what the population of Norwich was at the time he began practice, but we do know that Boston and Philadelphia were the two largest cities in the colonies, and neither of those were as large as Norwich is now. He was chosen the first President of the New London County Medical Association, and was reëlected to the office for several years. He was a number of times elected Fellow from his county, and in 1798 received the honorary degree of M.D. from the State Society.

Dr. Joshua Downer was a resident of the town of Preston, and the second one to affix his name to the Memorial of 1763. He was for a number of years the leading physician of the town in which he lived, and during the Revolution became the surgeon of the Eighth Regiment Connecticut militia. The Eighth Regiment was more conspicuous from being absent from the battle of Groton Heights than for any service rendered during the war,

but Joshua Downer rendered signal service after the massacre in caring for the wounded, he being there as soon as his horse could take him.

The smoke from the burning city of New London attracted his attention at his home in Preston on the day of the battle. Leaving orders for his son, Avery Downer, to follow, he proceeded at once to the scene of conflict, where he was engaged with others until daybreak of the following morning in dressing the wounds of those that had been left to live or perish by the British. The following year he was appointed a member of the court-martial, held at New London, for the trial of such officers as were charged with non-performance of duty at the time of the Groton massacre.

Dr. Philip Turner, the third man signing the Memorial and living to see the State Society incorporated, was born in Norwich in 1740. Being left an orphan and destitute at the early age of twelve, he became the protégé of Dr. Elisha Tracy. Here he was treated as a member of the family, and a few years later began the study of medicine under the supervision of his patron, who secured for him at the early age of nineteen an appointment as assistant surgeon in a provincial regiment under Gen. Amherst at Ticonderoga.

His winning ways and pleasing address soon made him a favorite among the English surgeons, his intimate association with whom was the means of his gaining that information and practice that led to his becoming one of the most eminent operators of his day.

It has been claimed for him, that he was the first one in this country to ligate the femoral artery, while his operations in lithotomy were especially successful. His uncommon judgment backed by a cool and firm mind, with great operative dexterity, won for him from his cotemporaries the enviable reputation of having no superior as an operative surgeon in Europe or America.

In 1763, at the close of the provincial war, he left the army and returned to Norwich, where he married the eldest daughter of his benefactor, Dr. Elisha Tracy, and settled down to the varied duties of a general practitioner. It was during this period he signed the Memorial of 1765. At the breaking out of the American Revolution he was the first Connecticut surgeon to go

to the front, and served with the troops before Boston. In 1776 he was transferred to New York, and the following year received from Congress the appointment of Surgeon-General, having charge of the entire medical department east of Philadelphia, which position he filled with honor and ability, until near the close of the war, when he returned to his home in Norwich, and resumed his private practice.

It was during this period that the State Medical Society was incorporated; the name of Philip Turner appearing among the original members. Then followed a period of eight years, during which no name appears more constantly upon both county and state records than his.

In 1800, finding himself at the age of sixty, and tired of his extensive country practice, he removed to New York as a field better adapted to his advancing years and recognized abilities. Here he soon received another army appointment, which he continued to hold up to the time of his death, which occurred in the spring of 1815, in the seventy-fifth year of his life.

Military etiquette extended to his burial in old Trinity churchyard, the formal honors it so richly deserved, for here was laid away a hero who had served his country through three wars: had been an honor to his state and native town; had risen to the highest professional eminence of which his age can give witness, and all this from the lowly lines of a poor orphan lad, who never knew the advantages of an academic training, and who never studied or traveled beyond the borders of his own country.

Is it matter for wonder that the members of the New London County Medical Association should stand loyal to the old Charter when it came into existence through the travail of such patriots as these?

In the years to come, should there ever again be heard the voice of some deluded brother shouting for anarchy, may he go and seek in the shades of Benedict Arnold the consolation and sympathy that he will so sorely need, for an Arnold alone, druggist that he was, would be qualified to compound a medicament for such an ailment.

Of the eleven names attached to the original Memorial, aside from the three of which we have made especial mention, are two others also to be identified in connection with the call published

in the Courant in the Spring of 1774. These are Joseph Perkins and Elisha Tracy.

Joseph Perkins was born in the town of Norwich in 1704, graduated from Yale College in 1727, and soon after commenced practice in his native town, growing at once to eminence in both medicine and surgery, performing for years most of the capital operations in the eastern part of the colony.

The following authenticated case is noticed by his biographer as being deemed at the time peculiar in its nature and extraordinary in its circumstances: In 1761 Abiel Stark of Lebanon was afflicted with umbilical hernia, from which he suffered extremely, as strangulation had already taken place when Dr. Perkins was sent for. Upon examination, immediate recourse to operation was decided to be indispensable, when, upon exposure of the intestine, it was found that mortification had already taken place, and the case was, apparently, hopeless. With this impression Dr. Perkins resolved on the expedient of attempting what, to him, was the novel operation of producing artificial introsusception. This he accomplished by introducing the diseased part of the intestine into the sound, and finished the operation as the exigencies of the case required. The diseased part of the intestine, measuring eight inches in length, with parts of the mesentery attached, was evacuated by the patient in about a week from the day of operation.

This, gentlemen, you are to remember, was before the day of anesthetics or bichloride antisepsis, yet Mr. Stark lived to enjoy tolerable health for nine years after the operation. The case is of further interest to know that after death Doctors Clark and Metcalf, two respectable physicians of Lebanon, found a stricture in the intestine at its point of union with a passage but little larger than a goose-quill.

Dr. Joseph Perkins was a man of brilliant talents, inclined to scientific pursuits, and far renowned for his piety, patriotism and benevolence, his extraordinary vitality enabling him to practice until near the close of life, which occurred in 1794, at the advanced age of ninety. He was the father of Dr. Elisha Perkins, the world-wide famous inventor of the metallic tractors.

Of Dr. Elisha Tracy we only know that he deservedly stood high in the public opinion as a classical scholar, a practical phy-

sician, and was a man distinguished for his moral and social virtues.

The two men who were voted into membership by the County Association, but whose names do not appear upon the roll of State membership, were William Graham of New London and Amos Prentiss of Groton.

The name of the latter may have been overlooked from the fact that there was an Amos Prentiss, Jr., who was also a member. His name is certainly worthy of commemoration here, from the fact that it was he who assisted the Downers in caring for some forty of the wounded after the battle of Groton Heights.

He was one of the first to enter the fort after the evacuation by the enemy, and though inured into witnessing the cruelties that had been inflicted upon his countrymen, when he came to the body of his intimate friend and neighbor, Col. William Ledyard, he cried out in despair that it was more than he could endure.

By a quite excusable error, David Bolls, of New London, was known upon the State roll of membership as David Balls, but it was hardly as excusable in the case of the first County Clerk, Simon Wolcott, who stands enrolled upon the State list as Simeon W. Scott.

Simon Wolcott was a resident of New London, and could trace his lineage to its connection with Roger Wolcott, one of the early Governors of the Colony. He continued to be Clerk of the County Association down to 1800, and then became its President for three or four succeeding years, at which time his name ceases to be mentioned.

Time will not permit of our following down the history of our Association, but if we may be permitted to look back, we trust to be pardoned for indulging a justifiable pride by calling your attention to the fact that John Winthrop, the first Governor of Connecticut, was an eminent physician who "practiced mostly at Pequot and New London," and was one of the founders of the Royal Society, he being in England at the time as an agent from this Colony.

Read at the Annual Meeting of the New London County Medical Association and referred to the State Committee on Publication.

April 6th, 1893. J. La Pierre, Clerk.

NEPHRITIS.

E. B. HEADY, M.D., MILFORD.

The kidney is a very important organ of the body, and from the rude treatment it receives from the excessive use of alcoholic stimulants and debauches, exposure to cold and wet, rapid eating, a hurried, excitable life, it is a wonder it does not often revolt against its owner.

The most frequent causes of acute nephritis are cold after a debauch, the poisons of specific fevers, especially scarlet fever; also many poisons, carbolic acid, turpentine, chlorate of potassa and many others may cause an acute congestion, which sometimes terminates in nephritis. Pregnancy may cause it by pressing upon the venal vessels, also burns and chronic skin diseases.

It is usually very suddenly developed; there is pain in the back, often intense, severe headache, nausea and vomiting, more or less febrile disturbance, diminished amount of urine, not more than two or four ounces in the twenty-four hours; blood is mixed with it, giving it a dark brown color and often a deep red, containing tube casts and albumen.

Dropsy may be very slight, only a little pitting about the ankles, but effusions may be very extensive into the cavities of the body. It is not a prominent symptom in many of the febrile cases; the most intense nephritis may exist without it.

Albumen is no evidence of Bright's disease, and Bright's disease may exist in which albumen is absent, or presents only a trace. These cases are rare. Tube-casts are usually present, and absence of albumen is not generally permanent. In pregnancy we may find it in the urine due to pressure, and the last three months the urine should be frequently examined.

Febrile albuminaria is very frequent. In almost all fevers, during some portion of their stage, albumen may be found, but

not tube-casts. After violent exertion, partaking of a very hearty meal, also after a severe epileptic convulsion, albumen may be present and again disappear. Young people are liable to have at times traces of it; it may be absent in the morning and present during the day, perhaps due to the pressure being removed from the renal vessels while in the recumbent posture.

Albumen found under any circumstances is always suspicious, and should place the physician upon the careful watch. It may be only one link of a chain that sooner or later may lead to Bright's disease. It shows that there has been a disturbance in the structures of the kidneys. As insurance companies dread Bright's disease, and physicians are the guardians of life insurance companies, all applicants having albumen in the urine should be carefully investigated. Casts, either with or without albumen, are sure evidence of nephritis. They are found in all varieties, especially the hyaline and granular. Blood and epithelium are common to the acute form.

I think many cases in their early stages may be overlooked, as the symptoms in children indicate gastric or cerebral disturbance; also with adults the indications often point to trouble with the brain or the development of some form of fever. The frequent desire to urinate, with pain, may indicate there is trouble with the bladder, rather than with the kidneys, but when the suppression of the urine is observed and its color, the case is clear almost without the examination of the urine, or any appearance of dropsy.

The urine is of low specific gravity and very soon after the acute stage is passed, anemia rapidly develops, owing to the great amount of albumen draining from the blood.

Treatment in the acute form should be at first the elimination of as much as possible of the fluids of the body, not because there is dropsy as that very seldom at first appears, but to remove the urea from the blood which has accumulated to a dangerous amount, and if not removed uremic convulsions will soon follow. Free diaphoresis should be produced, also the bowels freely acted upon by saline cathartics. When a case is first seen in a convulsive stage, in a robust, full-blooded person, chloroform should be at once administered and if the patient is plethoric and not weakened by previous disease, twenty ounces or more of

blood may be taken from the arm, saline cathartics given and free perspiration produced. In children, dry cupping to the back is advisable; also if there are convulsions five grains of bromide of sodium may be given once in five minutes, for a number of doses, and to a child five years of age five grains of chloral hydrate should be given by the rectum and repeated as often as needed.

In the acute variety there is a great tension upon the secreting structure and it is not advisable to give digitalis in the early stages as it would increase the blood-pressure and contract the tubules. It is one of our valuable remedies later in the disease; it stimulates the heart. In the acute form no stimulating diuretics are to be given, such as copaiba, spirits of nitre, or turpentine; they do harm to an already congested kidney, there is a possibility that the saline cathartics and mineral waters may irritate the kidneys. The best diuretic in our possession is distilled water. Large quantities of pure water should be drank daily, to flush out the kidneys and dilute the blood. In case the stomach is unable to retain water it may be given by enema every few hours. If mineral waters are used those containing the least mineral substance are best. Mercury should not be given in any form, nor be used as a cathartic from routine practice, nor in small doses frequently repeated, as it will certainly produce ptyalism: the kidneys in their weakened condition will not rapidly eliminate it. If the liver is inactive, give small doses of podophyllin, if the patient is strong enough to tolerate it. Saline cathartics do not in the least stimulate the glandular system; they wash out the contents of the bowels, also clear the tubules of the kidneys of epithelium and debris.

The hot pack for children is most desirable. The child should be placed in a flannel blanket wrung out of hot water, a dry blanket, and a rubber blanket outside of that: if sweating does not soon start administer hot drinks. The pack can be repeated three or four times a day. The hot bath for children or adults is also recommended. After coming from it free perspiration can be produced by forcing hot air under the bedclothes. It is easily done by placing a funnel over an alcohol lamp with a tube connected, the patient carefully watched and stimulants administered in case there is any faintness. Another method of causing

free and profuse perspiration is to burn alcohol under the chair of the patient, having the patient fully covered, except the head, by heavy blankets. It is called the "*alcohol sweat.*" A free perspiration is often superior to any form of medication in diseases of an inflammatory nature. The diet should consist of milk almost entirely; it is a diuretic, very nutritious, and does not irritate the kidney. The drink best suited to all cases is about two teaspoonfuls of bitartrate potassa added to one pint of boiling water; when cool add sugar, strain and drink freely.

Later in the disease, when anasarca is extreme, neither cathartics nor diuretics will reduce the sweating. It is in those cases that we are justified in using a dangerous and heroic remedy. It is the active principle of jaborandi, or pilocarpine. The dose for an adult hypodermically is from one-eighth to one-sixth grain, and in children five years of age from one-twentieth to one-twelfth grain. It has both a diaphoretic and diuretic action. It stimulates both the salivary and mucous secretions. To a child two years of age, one-fortieth to one-twentieth grain can be given every four or six hours by the mouth. It is tasteless, readily dissolved in water and will be retained when other remedies are not. Its action is wonderful in scarlatinal and diphtheritic nephritis. When administered in doses of one thirty-second grain to a child five years of age by the mouth once in three or six hours, it has increased the secretion of urine from one-half pint to four pints in twenty-four hours; the sweating is profuse and the dropsy rapidly diminishes, and uremic convulsions subside.

In almost hopeless cases, when the anasarca is immense, almost a bursting of the skin under its use, the fluid disappears, albumen diminishes, and life is prolonged. Its effect is not without danger. It must be carefully watched, and stimulants given with it if necessary. The remedy must be discontinued as soon as the dangerous symptoms are relieved.

Croton oil in one or two drop doses, also elaterium in one-fourth grain doses, are recommended, but they must not be used in connection with pilocarpine as the depression would be extreme, although if we get no response to ordinary cathartics, or the stomach will not allow their administration and the uremic convulsions continue, croton oil could be given on the tongue. Digitalin by the mouth or hypodermically is not cer-

tain in its action. Citrate of caffein in two or three grain doses has a very good effect in mild cases. In ordinary cases, with proper attention, when there are no uremic symptoms, there is nothing better than the infusion of digitalis in tablespoonful doses three times a day, with the addition of twenty grains of acetate of potassa to each dose. The new remedy, diuretin, is attracting much attention, and I hope it will accomplish all that is claimed for it.

In cardiac and venal dropsy it has given splendid results in cases where all other remedies have failed. It is very soluble, does not keep well in powder, is best given in hot water or in gelatin coated pills in small doses, often repeated, giving from ninety to one hundred and twenty grains a day. By its use the urine has been increased from one and one-half pints to twelve pints a day. After giving one hundred and twenty grains a day for three or four days, all traces of ascites have disappeared, difficult breathing relieved, and cough was no longer troublesome. Also in a case of chronic parenchymatous nephritis, with general anasarca, under its use the urine increased to one hundred and forty ounces in twenty-four hours, with a disappearance of all dropsy and the diuresis still continued.

Diuretin is a combination of theobromine with sodium salicylate, and is chemically sodio-theobromine-salicylate. It is a diuretic of great power, promptness and activity, suitable to all forms of dropsy, not increasing arterial tension. It is likely to succeed where digitalis and other remedies fail. In cardiac weakness, with great feebleness, it will strengthen the heart's action. It appears to cause no irritation of stomach or kidneys.

Pilocarpine or diuretin are to be used only in extreme cases of general dropsy or uremia. They are active remedies to combat a diseased condition and crippled kidneys, and not to be resorted to until all ordinary measures prove of no use, unless there is uremia. Chronic parenchymatous nephritis generally follows the acute form, but may develop insidiously. It requires about the same line of treatment as the acute, only less active.

Chronic interstitial nephritis, with contracted and shrunken kidneys, requires very little treatment unless symptoms are urgent. The albumen will remain usually. There is very little dropsy.

The countenance has a pale, waxy expression; the patient is anemic from loss of albumen. Albumen is not at all times present in the urine; it may appear and disappear. So may casts; but the peculiar expression and hard, cord-like pulse, not easily compressed, and a dilated, hypertrophied heart, will at once indicate the nature of the disease.

With careful attention to diet, keeping the body warm, and a suitable climate, patients will live for years with chronic interstitial nephritis. The treatment for this form of nephritis is sustaining and strength-giving; digitalis in some of its forms; small doses of strophanthus for the heart. Do not give alcohol; in many cases it is, without doubt, the exciting cause of the disease. There is no known remedy that will control the loss of albumen. Astringents are used—tannin, ergot, and many others; their action is very uncertain. The tincture of chloride of iron in large doses has done much good. It is of decided benefit in the chronic parenchymatous form. It is tonic, diuretic, and counteracts the anemia, which is always present after the acute form is passed.

Nitroglycerine is a valuable remedy when there is high arterial tension. If that condition is not relieved by a hot bath, hot air, or a saline purge, nitroglycerine should be given, commencing with one minim of the one per cent. solution, and gradually increasing it until eight or ten minims are taken, three times a day, if required to produce the constitutional effect. When the dose is excessive, flushing of the face or headache will be noticed. It may be continued for weeks without harm, although it is well to stop for a time and then resume it.

As nephritis is, without doubt, upon the increase, and may be of sudden or insidious development, it is well to be on our guard and have in our minds remedies that will speedily control a dangerous case.

PNEUMONIA.

BY THOMAS TURNBULL, JR., M.D., HARTFORD.

Jurgensen says, outside of phthisis, pneumonia is the most fatal of all diseases.

Pneumonia is an acute, specific, infectious disease caused by a specific germ, the diplococcus pneumoniæ, characterized by inflammation of pulmonary parenchyma and constitutional disturbances of varying intensity.

With Laennec, to whom we owe so much of our knowledge of lung diseases, the idea started "that pneumonia is a local affection, a primary inflammation of the lungs, and the general symptoms in proportion to the extent, profundity and the gravity of the pulmonary lesions." The older writers, ignorant of auscultation, made the pulmonary lesion secondary and subordinate to the general condition, which alone was accessible to them. They held that pneumonia was but the principal localization of a general disease, the peripneumonic fever.

Jurgensen thus sums up his opinion of pneumonia in the article on cronpous pneumonia in Ziemssen's Cyclopedia, "Croupous pneumonia is a constitutional disease and is not dependent upon a local cause. The inflammation of the lungs is merely the chief symptom, and the morbid phenomena are not due to the local affection. We must admit a specific morbid agent; croupous pneumonia then belongs to the group of infectious diseases." This was in 1875 and what a step forward it was.

Is pneumonia a general disease? Is pneumonia a disease produced by a specific agent? The second question will be answered first. The experimental physiologists in their experiments in section of the pneumogastrics found that pulmonary lesions follow this operation.

Traube was the first to notice the resemblance of these lesions to those characterizing lobular pneumonia and showed that it was

due to anesthesia of the laryngobrouchial musosa allowing liquids from the mouth and even alimentary particles to penetrate into the bronchi and alveoli.

Bretonneau employed irritating vapors, Trasbot and Cornil employed turpentine, Hohenheimer injected purulent septic liquids, even putrified blood, into the bronchi of dogs on which he had practiced tracheotomy. Wolf injected into the bronchi of hares and guinea-pigs the ordinary bacteria of putrefaction, and yet all these experiments failed to produce a frank pneumonia. A catarrhal pneumonia, or pseudo-lobar brouchopneumonia was the result. Heidenheim used alternations of heat and cold to produce frank pneumonia but failed, obtaining only tracheitis, bronchitis and nodules of lobular pneumonia; in no case did he observe lobar inflammation or concomitant pleurisy. All the above experiments show that frank pneumonia cannot have nervous or mechanical origin.

Klebs was the first to describe what he believed to be the specific agent in pneumonia. They were roundish, mobile micrococci. The lesions produced by Klebs, monads however, were those of experimental septicemia in general and not a true pneumonia. Erberth in 1881 described certain round micrococci isolated or in colonies. Koch in 1881 found micrococci in the capillaries of the lungs and kidneys in a case of pneumonia; he was the first to indicate their oval forms. In 1882 Friedlander published his account of the micro-organisms in eight cases of frank pneumonia. This diplococcus, described, cultivated and injected, producing a frank pneumonia, is now usually admitted to be the specific cause of croupous pneumonia.

The second question in regard to pneumonia being a general disease, is not entirely settled yet. Most pathologists look upon it as a local disease, with constitutional symptoms caused by absorption of the pneumotoxine. Probably like diphtheria it starts as a local disease, the constitutional symptoms following the poison absorption, or it may be reasoned that the poison enters by the lungs: the constitutional symptoms spring up followed by the pulmonary symptoms. In most cases it will usually be found that there were prodromal lung symptoms.

Pneumonia is both infectious and epidemic. Epidemics are described as occurring in 1348, 1585, 1621, 1708, 1768 and several

since then. In the Kentucky State Prison Hospital in 1875, seventy-five of the prisoners had pneumonia with a mortality of eight per cent. In 1876 another epidemic occurred in the same prison when twenty-five out of ninety-eight succumbed. City and town epidemics are quite common. We are all familiar with the house epidemics when entire families are wiped out.

Among the conditions favoring the development of pneumonia may be mentioned, the seasons, climate, winds, hygrometric states, putrid miasms and sewer-gas, chilling of the body, traumatism, overwork and overcrowding. Besides these there are the individual conditions, sex, age, habits, etc.

The pathological anatomy will not be taken up as you are all familiar with the three stages of the inflamed lung.

Course.—Pneumonia is a typical disease, taking all cases into consideration. The subjective and objective symptoms, due to the local affection of the lung, usually take chief place among the clinical appearances. Like the other infectious diseases it runs a certain course, extending over a certain time and ending usually by crisis. The length of the attack varies according to the severity, individual circumstances and complications, lasting usually from three to seven days.

Symptoms.—The slight prodromal symptoms I wish to call attention to, as we are overlooking them since we acknowledged the specific cause. The chill usually is sharp and makes a marked impression on the patient, so much so that the slight prodromes are forgotten and the chill is given as the initial symptom.

In the influenzal pneumonia the chill is often lacking, slight chilly sensations taking its place. The pain in the side is not marked and is taken for the thoracic pains of influenza, the sputa is simply mucous and catarrhal, and we think it a case of bronchial influenza, when all the symptoms are suddenly intensified and we have the later stages of a frank pneumonia. In many cases during the past winter this is what we have had, with much more fatal results than in true pneumonia.

Temperature, pain, respiratory, nervous and cerebral symptoms you are all familiar with, and they need only be mentioned in passing.

The complications of pneumonia are few, being only pleurisy,

peri and endocarditis, peripheral neuritis, phlegmasia alba dolens, which is quite common. Serious gastric and enteric complications are rare. Parotitis occasionally occurs. Bright's disease does not often follow, but pneumonia is a frequent complication of Bright's. Peritonitis is exeeedingly rare. Relapse is uncommon. "Wagner in eleven hundred cases met only three relapses and these were doubtful." Recurrence is more common in pneumonia than in any other acute disease, many persons having four or five attacks.

The termination of pneumonia in favorable cases is resolution, which usually sets in shortly after the crisis. The other terminations, which are unusual or rare, are abscess, gangrene and fibroid induration.

Diagnosis.—Pneumonia is usually one of the easiest of all diseases to diagnose. The greatest trouble is in old people and drunkards. The delirium of drunkards with pneumonia is apt to be mistaken for delirium tremens and the pneumonia overlooked. All these cases should be examined for pneumonia. In old persons and during an influenza epidemic many of the symptoms are masked and a diagnosis is difficult. Pleurisy with effusion is sometimes, in children, taken for pneumonia, and often the first few breaths taken by a person rising from a dorsal decubitus give a crepitant rale which is often very misleading and has been diagnosed as pneumonia. By making the patient take a few long, deep breaths this passes quickly away, as it is only due to hypostatic congestion. The crepitant rale is no longer considered an infallible sign, as it is found in other conditions. Pneumonia is often secondary to chronic troubles, and is often overlooked, being taken for an exacerbation.

Prognosis depends to a certain extent upon the age, rising from 3.7 per cent. under twenty years to 22 per cent. in the third decade, 30.8 per cent. in the fourth, 47 per cent. in the fifth, 51 per cent. in the sixth, and 65 per cent. in the seventh decade. In children the outlook is good. Endocarditis is a grave complication; meningitis is usually fatal. Early signs of heart-failure, cyanosis and difficulty in breathing, with mucous rales, are symptoms of gravity. Death is in the majority of cases due to heart-failure, whether induced by fever, specific action of poison, or paralysis due to over-distention of right ventricle.

Treatment.—Pneumonia, being a self-limited, specific disease, is at present uninfluenced in its course by any drug. The latest specific treatment is that of G. and F. Klemperer, who found that rabbits, vaccinated with varying strength of bouillon cultures of the pneumococci, became immune against stronger injections. They then isolated an albumose pneumotoxine, which being injected into rabbits and man produced febrile symptoms similar to pneumonia; in the previously inoculated rabbits the pneumotoxine had no effect. "In addition they found that the effect of injections of cultures of pneumococci was promptly antagonized by the injection of serum of men rendered immune by a recent attack of pneumonia. The time that had elapsed in the men from whom the serum was obtained, after the crisis, varied from one day to three months, and in all these cases the same results followed the injection of the serum." "The explanation of these facts was that the blood of immune persons contains a substance which they called antipneumotoxine, antidotal to the pneumotoxine, developing during the course of the disease, owing to some action of the pneumotoxine upon the serum, until it is present in sufficient quantity to neutralize the pneumotoxine, and thence persisting during the period of immunity." The Klemperers report six cases with the crisis appearing in from six to twelve hours after injection, with slowing of pulse and respiration. The quantity of serum was from 4 — 6 c. c. Neissner reports three cases. Redner reports twenty cases with uniform recovery. Jensen has reported favorable cases. Hughes and Carter of Philadelphia report a case successfully treated by the serum injections. Here in over thirty reputed cases we have recovery in all, with only five cases in which the crisis appeared at such a time as rendered the effect of the injections doubtful.

Now specific treatment has changed from the intense anti-phlogistic treatment of the first part of the century and the succeeding do-nothing treatment of the past few years into a rational conservative position of making way early for the symptoms which are to follow. Outside of the specific infection the treatment of pneumonia is the treatment of an overworked, overdistended right heart. Our main object is to keep this strong and relieve the venous vessels by dilating the arteries and equalizing the

blood-current. This is best done in the first stage by aconite. Wood says "on the heart aconite acts as a quieter of its movements and force, and so lowers blood-pressure and pulse-rate by a direct action in the heart muscle. There is no evidence of its possessing any direct influence on the vasomotor system." It lowers temperature by increasing heat radiation. We thus see that aconite quiets the heart and prepares it for the struggle which is to come. After the first stage aconite is considered dangerous by most authors, and as its action on the vasomotors is slight, it had better be dropped and some of the vasodilators substituted. Here nitroglycerine comes into play. Where we have cyanosis, labored breathing, mucous rales, rapid weak pulse and all the signs of a weakened right heart, with a decrease of the accentuation of the pulmonary second sound, nitroglycerine in large doses will so distribute and equalize the blood-current, emptying the veins and filling the arteries that it sometimes appears magical the way the bad symptoms disappear and the relief to the patient is very marked. The action of nitroglycerine is fugacious, the effects of a dose lasting only from thirty to forty-five minutes, so it must be repeated frequently. It can be used with safety in doses of one one-hundredth of a grain every hour. The pulse is not a guide for the administration of nitroglycerine; as soon as the pulmonary valve sound begins to weaken it should be pushed.

Strychnia is very useful and though opposed in action to nitroglycerine, its action directly on the heart muscle is beneficial and will overcome the slight depressant action of the nitroglycerine. The fever of pneumonia seldom requires treatment; if excessively high, careful adminstration of phenacetine or cold sponging will reduce it. Feeding is an important point. There is a demand of the system for liquids and water should be freely given. The system is clogged, there is no demand for food. The stomach cannot take care of much and as the course of the disease is short there is no need of filling our patient full of food he cannot digest. Physiologically the stomach takes from three to four hours to empty itself, so to keep from over-loading the stomach food should not be given at less than three hour intervals and then only in small amounts. Andrew H. Smith says, "Giving an excess of food therefore entails a double embarrassment.

There is the burden arising from undigested food in the stomach, giving rise to flatulent distention, and thus rendering respiration more difficult, and there is also the risk of loading the blood with more nutritive material than the imperfect respiration can act upon in the process of sanguification. In regard to this latter point I think it more important than it generally appears to have been regarded. We are too apt to overlook the fact that before the food so absorbed can really contribute to the sustenance of the body or add to the strength of the patient it must undergo a process of assimilation, a process in which respiration plays an important part." Really the most important thing is just to give enough food to sustain the forces without burdening the system to throw off excess. Alcohol is useful in that it acts as a food, is a vasomotor dilator, any excess is oxidized and easily thrown off and does not clog the system, and above all it is a direct cardiac stimulant. Judiciously given alcohol is one of our most valuable remedies. For the pain in the side nothing is better than a hypodermic of morphia and atropia, which stops pain, relieves embarrassed respiration and stops cough. For cough alone small amounts of Dover's Powders are beneficial. For the insomnia chloralhydrate may be given but needs to be carefully watched. Paraldehyde in one-half dram doses, in suspension, acts very happily in many cases Convalescence is usually rapid and recovery complete.

ACUTE LOBAR PNEUMONIA TERMINATING IN ABSCESS OF THE LUNG—DEATH ON THE EIGHTEENTH DAY.

IRVING W. LYON, M.D., HARTFORD.

J. G., laborer, aged sixty, went to bed at 11 P.M., March 18th, 1893, in his usual health. About 3 A.M. he was seized with severe pain. I saw him half an hour later; the pain was in the left lumboabdominal region. Its situation and severity made me think that he was possibly passing a renal calculus. I administered morphine hypodermically, and a few minutes later left him comparatively easy.

I next saw him at 1 P.M. The pulse was ninety-six and hard; temperature, 100.5°; respirations, thirty-eight; he was coughing, and over the lower part of the inferior lobe of the left lung crepitant râles were very distinctly heard. I ordered one drop of the tincture of aconite to be given hourly and $\frac{1}{100}$ grain of nitroglycerine every four hours, and a flaxseed poultice containing mustard to the affected parts. At 9 P.M. he was sweating profusely; pulse, one hundred; temperature, 101.5°; respirations, twenty-nine. There was pain in the lower part of the left lung for which a hypodermic injection of morphine was given.

Second day, March 20th, 9 A.M.—Pulse, one hundred; respirations, thirty; temperatnre, 100.75°. The severe pain had returned, and another injection of morphine was given. At 8 P.M. the pulse was one hundred; respirations, thirty-one; temperatnre, 101.5°. A hypodermic of morphine was required for the pain.

Third day, March 21st, 9.30 A.M.—The pulse was one hundred; respiration, twenty-three; temperature, 100.5°. The aconite and nitroglycerine were reduced, as follows: The former to one drop in every two hours, the latter to $\frac{1}{100}$ grain every six hours, and $\frac{1}{60}$ grain of sulphate of strychnia was ordered to be

given every six hours. Morphine was given hypodermically for the pain. At 8.15 P.M. the pulse was one hundred; respirations, twenty-seven; temperature, 100.75°. There were dulness on percussion, bronchial breathing and bronchial voice over the lower lobe of the left lung, from its base following the interlobular fissure up to a little above the angle of the scapula. The sputa were very viscid, but not at all colored. A hypodermic of morphine was given for the pain.

Fourth day, March 22nd, 9.45 A.M.—Pulse, eighty-eight; respirations, twenty-three; temperature 99.5°. A quiet night, slept well from the morphine, which this morning was again required on account of the pain. At 8.15 P.M. pulse ninety-six; respirations, twenty-five; temperature 100°. The expectoration was free, very viscid, but without color. A hypodermic of morphine.

Fifth day, March 23d, 8.45 A.M.—Passed a very comfortable night. Pulse, eighty-seven; respirations, twenty; temperature 100°. Area of consolidation the same. At 8.30 P.M. the pulse was ninety-two; respirations, twenty-eight; temperature 100.5°. The aconite and nitroglycerine were now stopped as the pulse was considerably softer than it had been. The strychnia was continued every six hours as before.

Sixth day, March 24th, 9 A.M.—Had a good night. Slept well from the morphine. Pulse, ninety; respirations, twenty-four; temperature, 100.25°. At 7 P.M., pulse ninety-eight; respirations, twenty-seven; temperature, 101.4°. Has had two teaspoonfuls of whiskey three times to-day as he has not been quite as well and strong as hitherto.

Seventh day, March 25th, 9.30 A.M.—Pulse, eighty-eight; respirations, twenty-four; temperature, 100°. At 8.30 P.M., pulse, ninety-six; respirations, thirty; temperature 101°. During all this time the patient would be quite easy and free from pain when under the influence of morphine, $\frac{1}{4}$ grain of which was administered hypodermically morning and evening. The pain would often become quite severe two or three hours before my visit, but would disappear entirely soon after the morphine was given. His pulse and general condition were good. He was still expectorating a very tenacious fluid which continued to be colorless. The lung was now carefully examined for signs of resolution, but none could be found. The dulness and bronchial breathing re-

mained but did not extend. He had relished the milk which had been taken in sufficient quantity.

Eighth day, March 26th.—I was summoned to the patient at 6.30 A.M. He felt much worse, pain severe at base of the lung. Pulse, 120; respirations, thirty-four; temperature, 101.5°. A morphine injection soon relieved the pain. The whiskey was increased to a tablespoonful every two hours, and the strychnia was also given ($\frac{1}{60}$ grain) every two hours. Dr. E. K. Root saw him with me between five and six P.M. We verified the conditions above noted. The area of consolidation had not increased, nor were there any signs of resolution. We could discover nothing to account for the aggravation of the symptoms, but among other things the possibility of an abscess was spoken of at this visit. Besides the whiskey and strychnia, nitroglycerine $\frac{1}{100}$ grain was ordered to be given every two hours.

Ninth day, March 27th, 8.30 A.M.—Pulse, 116; respirations, thirty-four; temperature, 102°. 9 P.M., Pulse, 124; respirations, thirty-two; temperature, 102.5°.

Tenth day, March 28th, 9 A.M.—Pulse, 108; respirations, thirty-two; temperature, 101° The bronchial breathing over the parts affected was perfectly distinct but not nearly so loud as before. The percussion note was flatter than ever. At 9 P.M. the pulse was 102; respirations, thirty; temperature, 101°.

Eleventh day, March 29th, 9.30 A.M.—Pulse, ninety-six; respirations, twenty-eight; temperature, 99.5° 10 P.M. Pulse, ninety-six; respirations, twenty-eight; temperature, 100°

Twelfth day, March 30th, 9 A.M.—Pulse, ninety-six; respirations, twenty-eight; temperature, 100° 8.15 P.M. Pulse, 100; respirations, thirty; temperature, 100.5°.

Thirteenth day, March 31st, 10 A.M.—Pulse, ninety-six; respirations, thirty.

Fourteenth day, April 1st, 9.30 A.M.—Pulse, ninety-six; respirations, thirty; temperature 100.5°. 9.15 P.M. Pulse, 110; respirations, thirty-four; temperature, 101.25°

Fifteenth day, April 2nd, 9.30 A.M.—Pulse, ninety-six; respirations, thirty; temperature, 98.5° 9 P.M. Pulse, 112; respirations, thirty-two; temperature, 100.8°.

Sixteenth day, April 3, 10 A.M.—Pulse, 108; respirations, thirty-

two; temperature, 100.4°. During the past few days he had taken plenty of milk, moderately of whiskey, and to the strychnia, quinine and iron had been added. His general condition was fair, but he had gradually lost strength and courage. Up to this visit the condition of the lung had remained the same as that noted on March 28, viz., very flat on percussion, with distinct, though not loud, bronchial breathing. The dulness had not extended except possibly in front on the mammary line. A noteworthy fact was the recurring pain in the consolidated lung, which required a hypodermic injection of morphine morning and evening, and the amount of the morphine had to be gradually increased. At this visit on the morning of April 3d in auscultating the chest a gurgling, splashing sound was heard over that portion of the left lower lobe which runs to the front below. These sounds were very loud and easily heard, but were most distinct at a point just outside of the apex of the heart. Amphoric breathing could also be distinctly heard, both in inspiration and expiration. These churning sounds were, no doubt, caused to some extent by the respiratory currents of air into and out of the cavity; but the splashing was so constant that it seemed to me that the pulsations of the heart were also concerned in their production. The matter expectorated was whiter, more purulent and curdy looking than formerly, but was not at all offensive in odor.

Seventeenth day, April 4th, 1.30 A.M.—The family had noticed the splashing noise in the chest, and sent for me in great haste, the messenger saying that water had gathered around the heart. The patient had also just had a chill which lasted nearly an hour. I found the pulse 120; respirations, thirty; temperature, 102.5°. He was propped up in bed, which position he had preferred for the past two or three days. Milk and whiskey were given. He was failing rapidly. Dr. E. K. Root saw him with me at 9 A.M. The amphoric breathing and the gurgling and splashing sounds were carefully noted, and their origin in an abscess cavity was agreed upon. At 8 P.M. the pulse was 116; the respirations forty; temperature, 100°. He had another chill between 12 and 1 P.M., which lasted nearly an hour.

Eighteenth day, April 5th, 9.45 A.M.—The pulse was 130; respirations, fifty; temperature, 102.5°. Some of the expectorated matter was taken away for microscopical examination, and found to contain shreds of animal tissue by three observers. This, like all previous sputa, was devoid of odor.

The patient died at 3 P.M., seventeen days and twelve hours after the seizure.

THE TREATMENT OF SYPHILIS.

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A strange anomaly is presented to us in the subject of the treatment of syphilis. From the earliest period of the historical disease the weapon with which the combat against it has been waged has been the same that it is at this late day. And amid all the therapeutic progress of ages Hydrargyrum has held its own peculiar place and all remedial measures that have been added to the list of anti-syphilitics have not been able to displace it from its own distinctive specific sphere. This may be looked upon with feelings of pride or of shame; pride that our professional ancestors of remote times had so happily hit upon a remedy the worth of which has rendered it immortal; shame that with all our boasted advance in all lines of therapeutics nothing better than it has been discovered.

Scientific and clinical investigators have not been idle during these centuries and that nothing has been discovered to displace mercury from its eminent position as a specific, narrows down the inquiry as to the best treatment of syphilis to the question of when and how and with what adjuncts it is to be used to produce the best results. Let us not forget the rational view of the disease in the light of our present knowledge of venereal diseases. That it is not clap, Hunter and Ricord have proved beyond reasonable doubt. That it is always the same and has no modified half-brother is as well attested. There is no syphiloidal disease. The terms chancre and chancroid are without sensible meaning: the first means nothing, the latter means less. A venereal ulcer is not syphilis. Syphilis need have no chancre. If an ulcer or an abrasion exists which is syphilis, it is an initial lesion. So may a mucous patch be an initial lesion; so may any dermatosis be. The source of contact or the kind of contact determines the initial manifestation of the disease. The disease has no definite stages; there are no primary, no secondary, no tertiary periods. Certain manifestations are likely to occur

early, some late; there is no set rule for such manifestation. The source of the disease being in almost all cases the same kind of exposure, naturally directs the first manifestation to the organs and tissue so exposed. It is the initial sclerosis then that is first brought to our notice. This is a local disease no more than a gumma is. It is all important to bear this cardinal fact in mind in the treatment of the disease. The initial sclerosis is followed by manifestations on parts remote from the source of contagion. There are dermatoses, neuroses, osteoses, adenoses, visceral lesions and new formations. Some of these are prompt to follow at a very early period, some are tardy in development, all of them are likely to supervene at every possible time after the incubation period; indeed it is of not unfrequent occurrence that deep-seated and destructive lesions may show themselves ere yet the initial sclerosis has disappeared. This being the notion of a primary, a secondary or tertiary period drops out. There being but one disease, the same disease at all times, the treatment must be always the same and must be modified only according to the severity of the manifestations, their danger to life, function, or intactness of tissue, the individual susceptibility to the poison or the idiosyncrasy of the individual toward the treatment. The great desideratum of treatment must be the obliteration, the destruction so to speak of the materia peccans. The utmost thoroughness with which this can be done, the greatest rapidity with which we can accomplish this, must be our study.

It was customary to regard the initial sclerosis as follows: With doubt as to its being really syphilis, with doubt as to anything being gained (it being syphilis) if it was attacked, and with astonishing faith in success, if (it being syphilis) it was immediately destroyed. Conflicting ideas these. The doubt as to the sclerosis being syphilis was based on the fact that a venereal ulcer (called chancroid) bore resemblance to the true disease (called chancre), and that the differential diagnosis could be made only after remote (called secondary) symptoms showed themselves. Therefore if the diagnosis could not be made it was reasoned out that the treatment was thrown away if more remote (called secondary) symptoms developed. And this led to doubt number two, which assumed the local nature of the initial

lesion (called chancre) and considered the remote (called constitutional) symptoms as the first manifestations of a general specific toxemia and considered it time enough to begin operations when this took place. Then there were on the other hand those who, reasoning that the initial sclerosis (called chancre) was a local disease, considered its destruction tantamount to a cure of the patient.

In our present knowledge of the disease how faulty does all this appear. Destroy the initial sclerosis? How? By caustics? That horrible relic of medieval barbarity? Does it really destroy it? Is the seeming improvement of the patient and his freedom from further signs of the disease after the application of the caustic proof that the patient has been cured? What of the multitudes of syphilitics who, after years of apparent cleanliness, are in their ripe age, when the physician who has cauterised them has long ago passed away, suddenly attacked by loathsome and destructive lesions? Who with any practice in these cases does *not* see multitudes of just such cases?

Does *extirpation* cure? Is not the history of these cases the same as that of those that have been cauterised? I maintain that in the light of our present clinical experience the local treatment looking to a cure by local methods is faulty, needlessly paiuful, and dangerous in this—that it produces the illusion of a seeming cure.

Once let it be fully understood that the disease is a constitutional disease from the first day of its appearance, and that treatment of the disease is really for the good of the patient (for we have naught to do with the larger question of whether the social body does not suffer harm by the cure of lues), and treatment should be at once begun. The question of differential diagnosis ought not to be an insuperable bar to our getting at a conclusion as to the nature of the disease.

Local treatment for symptoms—that is, for pain, or discharge, or for protective purpose—that is, to minimize irritation by friction of clothing—is not out of place, but should not be valued for more than just to fulfil these limited indications. I will mention that I prefer the black wash to all other liquid preparations for cleansing the sore, and that a dusting powder of bismuth or of europhen and bismuth seems to me quite useful and comforting to the patient. But the treatment on which stress

should be laid is the administration of mercury, and the earlier this is pushed the better results and the quicker will they be attained. There are four objects to be striven for—to preserve the patient's health, and if it is depressed to restore it to the highest possible condition of vigor; to minimize the influence of the disease; to destroy, that is to heal, the local manifestations, and quickly to do this also, so that the disease may not be capable of transmission.

As to differential treatment, based on the age of the disease, I believe there is none. The differentiation must be made according to the lesions and the general condition of the patient and his susceptibility to one or more or all remedies known to be applicable to his particular case, or the general disease.

First and most important among drugs is mercury, and there are four ways in which it may be introduced into the system: the oldest, inunction; per orem; fumigation; and the most recent, subcutaneous injection. Each method has its votaries and enthusiasts. For inunction it is claimed that a greater amount of hydrargyrum is introduced into the system in the most rapid manner. It is a dirty method; the amount of the drug absorbed cannot be definitely estimated; it is more than any other method likely to produce hydrargyrosis; it has not proven itself one whit more efficacious than the method per orem. I will have none of it. I do not like evaporating mercury under a patient's chair. I have never used it and it does not appeal to me. I have never used subcutaneous injections, and do not think it likely that I ever will, as administration by the mouth is good enough for me. I will discuss that. It is almost certain that of all the mercury which we administer to the stomach none is lost to the absorbents. We can therefore know to a surety how much the patient gets. It becomes pertinent to ask what compound is most beneficial; for how long it ought to be used; and if the character of the lesion determines the choice and mode of administration of any particular salt? It is my experience that the protiodide acts best in the early period of the disease, the biniodide and other less soluble compounds in later manifestations. I give the protiodide in the very beginning of the disease, and the following is a common occurrence in my practice: A patient with an initial sclerosis is at once

put on the green iodide 0.01 every six hours for the first six days; 0.01 every five hours for the next five days; 0.01 every four hours for the next four days; 0.01 every three hours for the next three days. Then I begin again with one every six hours, and increase the dose as before. Each period, as will be seen, lasts eighteen days: this I repeat thrice, altogether fifty-four days. I desist from treatment for a week after each eighteen days, and go through this process three times, each time doubling the interval of rest from treatment. The patient therefore in about two months gets 2.5 grams of the mercurous iodide. After this time I give iron, nux vomica, simple bitters, and abundance of food. If the bowels get loose I give opium, but do not stop the iodide. One peculiar experience I have had a number of times, which is worth noting. It is this: In cases easily ptyalized, instead of stopping the treatment, I have increased the quantity of the drug, which was followed by abatement of the mouth symptoms. In fact, I think little importance should be attached to salivation in the early part of the disease. It is good practice, no doubt, to use astringent mouth washes but they are mostly needed in the later period of the disease. The symptoms most frequently following the initial sclerosis are dermatoses of an extremely benign type. Such do not permit of any local treatment whatever. The mucous patches call for local measures, but I have seen little good from any of them. Mild applications are entirely without value, and harsh substances such as zinc and copper, or savin (which is quite good), produce considerable discomfort. Alopecia and other dermatoses may be either of early or late occurrence. The first needs no treatment; in the latter, none is good for anything whatever. The case having been treated with mercurous iodide, as I have described, is very likely to be free from any symptoms in three months, and the patient is likely then to go through life without further symptoms, or he will enjoy immunity for a variable length of time. Under no circumstances should treatment be stopped, no matter how well the patient may be. He should be treated for two years, with slight intermissions, and with mercury and tonics at all times, each alone, or both conjoined. So far our work is simple, and our results ought to be good. But there are cases of syphilis called galloping and malignant, where the

late symptoms come early, and there are cases that come late and have no early symptoms whatever. Now late syphilis (whether early or late) may be and really is exactly the same disease, but the patient is not the same as he with early symptoms. The poison also is very much more active. Its virulence is greater in degree, if not different in kind. Simple tonics do little. The specific tonic is needed (the specific, it is distinctly understood, is nought but a tonic). The protiodide is good for such cases; it is not the best. The choice of the best mercurial salt, or the question whether K I is not more useful, is a serious matter. Experience has shown that $Hg\ Cl_2$ is not the best preparation of Hg. It disagrees with the stomach more than any other, and it produces salivation quicker and of a more intractable kind than others. And salivation in late cases is a serious matter. $Hg\ Cl_2$ is not used as much as formerly. It does more good in bone lesions than in other forms of the disease. $Hg\ I_2$ is extremely valuable, particularly for the dermatoses, but it produces diarrhea, and when once the patient has had diarrhea from the treatment of syphilis he will not be easily cured by any mercurial. The same may be said of salivation. When a person has once been salivated in late syphilis that ends the administration of Hg for all future time. Lately salts formerly unknown have been largely used—the peptonate, salicylate, carbamide—notably the tannate. I prefer the latter. Lusgarten has given enormous doses without producing unpleasant results. I have myself given 1. per day for two weeks during one month's time—that is, I give the tannate on one day and on the next give something else or nothing, keeping this up for one month. I am satisfied with its use. In late syphilis, if the lesions are destructive, local measures are called for. For the skin, europhen, which is the peer of all remedies; for the deep tissues, caustics—notably chromic acid, sodic ethylate, or zinc chloride, and these should be used with an unsparing hand; but always give Hg—always give tonics.

Now comes the question of K I. It is not a remedy to be highly recommended in the dermatoses, whatever its value in other manifestations of the disease. May be it is only when there is the assurance of the presence of a gumma beneath the skin that it ought to be given, but when given it ought to be

given with great liberality. Recently I gave it without mercury to a patient hemiplegic, aphasic and paretic without any history of the case of the disease. He got two hundred grams a week for two weeks, and his symptoms had entirely disappeared. I have under treatment at the present time a luetic paretic, who is taking forty grams daily with beginning improvement. A man with a large supraclavicular gumma is taking an ounce daily with marked improvement, but I never use it unless there is evidence that the disease is gummatous. For the neuroses pure and simple, such as tabes, etc., which I believe to be largely syphilitic, I consider the mercury preferable. Nervous symptoms referable to vascular disease are, as a matter of fact, *not* neuroses. Aphasia paresis, partial, local, special and general paralysis, or anesthesia and intellectual disturbances, are due to vascular disease rather than to disease of nerve cells.

There are embolus, thrombus, gamma, endarteritis obliterans, and in such cases I do consider the iodide worthy of thorough trial. It is strange how quickly tolerance for the drug will be established, how small doses will upset the stomach and large doses be well borne. Acute iodism is more likely to be procured by five grams daily than by fifty and acute iodism is of no importance. On intermission for a day of the medicine, it can be given with impunity. Chronic iodism is of no importance so long as the medicine produces results. But there is one danger to be guarded against—sudden death from glottic spasm. I have never seen such a case, but have seen two when the premonitory subjective symptoms of dyspnea and a feeling of hardness and inflexibility of the larynx have presented themselves. These were cases receiving no more than six to eight grams per diem respectively. The medicine was stopped. I have stated that for gummata or vascular disease I would favor the use of the iodide; for the dermatoses, mercury; for local application europhen or caustics, but this only when destructive processes are begun, and with tonics at all times, these terms meaning not only medicine but food, environments and any influence calculated to lift up the patient and with this statement I might summarize my brief review, but I ought to say a word as to the value of mixed treatment and the propriety of using mercury locally for local effect in late dermatoses. But this latter may be dis-

missed with the statement that europhen will fulfil all its indications completely and should always be employed and as to the former: I do prescribe mercury and iodine in the same mixture, but I also prescribe mercury and strychnia or iron in the same pill. In both cases there is mixed treatment and there are cases where such treatment is better than mercury alone. Say this is not correctly to be called mixed treatment; that iron is in no sense to be compared to K I as an anti-syphilitic, and I will reply then it is only a question of dosage. Iron is a far more valuable specific that is the iodide in such doses as we meet it with, in the so-called mixed treatment, and the mixed treatment resolves itself into mercury as the specific and other things as adjuvants. Among adjuvants certain vegetable substances have from olden times been highly extolled, and some of these being eliminants are not without value, but they should not be relied upon. No one drug should be relied upon, not the same one at all times. No inflexible rule should be followed, but every case should be treated experimentally. The very preparation which has done good at one time and for a long time may have to give way to other drugs of entirely different kind and the same preparations may at a later period again prove to be the proper remedy.

We may rest easy in our regard of the treatment of this disease in that we have a specific with which to meet it and that other drugs will help out our specific marvelously, but that specific must be used with judgment, with close attention to history, symptoms, intrinsic and extrinsic conditions, and apparent results and must be modified in kind, in dosage, and in combination as the exigencies of the case may require and basing our opinion on the experience of ages we may confidently prognosticate favorably. But while I quite agree with the general opinion that the disease is very amenable to treatment, and if anywhere in medicine, it is here we can be sure of good results. I wish it would never be forgotten that there are cases and they are not few when it would be safe to bear constantly in mind the warning, "Be not too sure."

Read by Dr. H. Fleischner before the Section of General Medicine at the Annual Meeting of the Connecticut Medical Society at Hartford, May 25th, 1893.

THE DIAGNOSIS OF ENTERIC FEVER.

BY GUSTAVUS ELIOT, A.M., M.D., NEW HAVEN, CONNECTICUT.

Recent advances* in the treatment of enteric, or, as it is more commonly called, typhoid fever, give to the diagnosis of the disease increased importance. Medical writers and teachers have generally declared that it is difficult to make the diagnosis of enteric fever until the course of the disease has been watched for five or ten days. Hutchinson says that the diagnosis is always difficult and sometimes impossible during the first week, (Pepper's System of Medicine, Vol. I., p. 311). Practitioners have generally been contented to wait for ten or fifteen, or even more days, before deciding upon the nature of the complaint from which their unfortunate patient has been suffering. The sick man, of course, has been anxious all the time to know the name of his ailment, and has been deluded by being told that he had some other less serious disease. If at length the physician has become convinced that his patient really has enteric fever, he has calmly declared to the sick man or his friends that the disease has run into typhoid fever.

In many cases, unquestionably, the patient has passed through the course of typhoid fever, and has recovered or died, without the physician in attendance having ever learned or declared the true nature of the disease. On the other hand, many patients have died, and their friends have been told that the cause of death was typhoid fever, when in reality the patients did not have that disease, but died of some other entirely different disorder.

The object of this dissertation is to enquire if the early diagnosis of typhoid fever is as difficult as it has been represented to be; what symptoms are most characteristic of it; what dis-

* See Proceedings of the Connecticut Medical Society, 1882, p. 273.

eases it is liable to be mistaken for, as well as what diseases are liable to be mistaken for it; and how it can be distinguished from these other diseases.

The symptoms upon which we have been taught to rely in making a diagnosis of enteric fever are: the course of the temperature, the diarrhea, the character of the diarrheal discharges, tenderness and gurgling in the right iliac region, tympanites, and the eruption.

Those which are generally described as most characteristic of the disease are the course of the temperature and the eruption.

Wunderlich, to whom the profession owes such an incalculable debt for popularizing clinical thermometry, in attempting to prove the great usefulness of the thermometer in enteric fever, hit wide of the mark. He did not exaggerate in the slightest degree the importance of the thermometer as a guide to the diagnosis and treatment of the disease; but he believed, and distinctly taught, that this instrument furnishes important indications with regard to the diagnosis of the disease, which, I am sure, the experience of each one of you has shown to be fallacious. The schematic diagram, representing the course of the temperature in an imaginary case of enteric fever, which he devised, and which has been reproduced in such recent works as Wilson's Treatise on the Continued Fevers (opposite page 156), and Hutchinson's article on Typhoid Fever, in Pepper's System of Medicine (Vol. I., p. 282), has done more than any other one thing to retard the progress of exact knowledge of the disease. His attempt to render our knowledge more exact, in this instance has really resulted in making it more inexact.

Experience has proved that, even when the course of the disease is not modified at all by treatment, the temperature does not, as a rule, follow the course of daily morning remissions and gradually increasing evening exacerbations during its first week, which he believed to be typical of the disease. Still less does it do this when, as is usually the case, the course of the fever is more or less modified by powerful therapeutic agents. This peculiar course of the temperature, moreover, even in the exceptional cases in which it is observed, does not become available as an aid to diagnosis until after the patient has been under observation for several days.

The eruption, the value of which is so highly esteemed by many teachers as an aid to diagnosis, does not, as a rule, appear until five or six days have elapsed.

These two diagnostic factors, the course of the temperature and the eruption, not being available as aids to diagnosis—the one until the patient has been under observation for several days, the other until he has been ill for a number of days, it is not strange that the notion has become prevalent that an early diagnosis of the disease is generally difficult and sometimes impossible.

Diarrhea is not a very reliable symptom upon which to base a diagnosis, because in most cases the patient has taken more or less laxative or cathartic medicine before sending for a physician. On the other hand, in a considerable proportion of cases—especially mild ones—diarrhea never occurs.

Iliac gurgling is a common phenomenon, and not at all peculiar to enteric fever.

Iliac tenderness, on the other hand, may be very slight, or may be absent altogether.

It is clear, therefore, that it is difficult to make the diagnosis of enteric fever, if one relies upon the symptoms which are generally described as of most importance.

But aside from the intrinsic difficulty of solving some of these diagnostic riddles, it must never be forgotten that one reason why an early correct diagnosis is made so infrequently is because practitioners forget the possibility of the existence of enteric fever. The disease is one which, it seems almost superfluous to remind you, commences as a rule very insidiously. I once saw a young woman taken with a severe epileptiform convulsion, who a few hours later had a temperature of 104°. Careful inquiry failed to elicit any previous symptoms of ill health. She died after a few days, and on post-mortem examination the extensive ulceration of Peyer's patches with enlargement of the mesenteric glands left no doubt in any one's mind that she died of enteric fever.

Such cases are, however, very exceptional. Generally the patient has been feeling indisposed for several days, and perhaps has taken a few doses of some domestic or popular remedy. He may then present himself in the physician's office, and remark in an off-hand way, as he enters the consulting room: "I am

having a little malaria, and I want you to fix me up so that I will not have to stop work, for I am very busy just now." It happens not infrequently—it is painful to confess—that the physician falls into the trap thus unintentionally set for him, and, without making a thorough examination of his patient, forgetting the possibility of the existence of a more serious disease, declares with easy grace that the case is one of malaria or biliousness—terms used by successive generations of practitioners, as a cloak beneath which to hide their careless observations and their pathological ignorance.

If, now, such a patient is really suffering from typhoid fever, as proven by the subsequent development of the symptoms, even if the disease is still in its early stages, careful inquiry will, in nearly every case, reveal the presence of a group of symptoms which, taken together, point very strongly to the existence of that disease, and in many cases warrant one in making a positive diagnosis the first time the patient is seen.

The great trouble is, that many physicians do not seem to consider the possibility of the patient's having typhoid fever until he has had successive intestinal hemorrhages, or his hair has commenced to drop out. It is my firm conviction, that every careful practitioner who treats a case of typhoid fever, ought at least to have suspected the existence of that disease the very first time he sees the patient, and that not to have considered the possibility of the presence of that disease is an evidence of carelessness closely bordering on criminality.

Let me repeat again, that the reason why so many men fail to make an early diagnosis of typhoid fever is, not that it is a difficult thing to do, but because they neglect to consider the possible presence of that disease.

Generally, the first, and by far the most common, symptom of which patients in the early stage of typhoid fever complain, is headache. When the physician is first consulted, the headache, having come on rather gradually, has generally lasted several days, and has been almost constant. It may have been of either moderate or great severity. This gradual, insidious onset of the symptoms has given rise to the statement in the text-books, that it is generally impossible to fix definitely the beginning of the disease. My experience has taught me that this

teaching is erroneous. Although at first the patient declares that he has been sick several days or about a week, it generally is perfectly possible, if he is moderately intelligent and is seen fairly early in the course of the disease, by careful inquiry to fix upon one particular day on which he began to suffer from headache and perhaps also from chilly sensations, and before which he was in his usual health. Whenever a patient complains of headache which has lasted several days, the physician should always satisfy himself that the patient has not typhoid fever before concluding his examination.

No one ought ever to prescribe for a patient without inquiring in regard to the existence of headache. Consequently, unless headache is really absent in any particular case, and it very rarely is, there is no excuse for overlooking the possibility of the existence of enteric fever.

If this symptom is present, the next thing to do is to count the pulse. This will generally be found to be accelerated. I do not recollect that I have ever seen a patient, at the commencement of enteric fever, who had a pulse of seventy-two or lower. If protracted headache and acceleration of pulse are both present, one must next take the temperature. This should never be omitted in any case when there is headache and accelerated pulse.

If there is elevation of temperature and acceleration of pulse with headache which has lasted several days, the probability that the patient has enteric fever is very strong.

Inquire next if he has had chilly feelings—which I remember to have heard the late Dr. Alonzo Clark, of New York, call diluted chills—not repeated at regular intervals on successive days, but occurring frequently and irregularly for several days. These are very different from the chills which occur in the course of malarial affections, and are strong corroborative evidence of the existence of enteric fever.

Nosebleed is an occasional early symptom. Its presence is confirmatory evidence, but its absence is so common that little significance can be attached to the fact that it has not been noticed.

If no laxative or cathartic has been taken and there is diarrhea, the movements being soft in consistence and of a yellowish

color, we have additional evidence that the disease is typhoid fever. If cathartics have been taken, the diagnostic value of the symptom—looseness of the bowels—is greatly lessened. On the other hand, even when enteric fever exists, it frequently happens that there is no diarrhea.

These half-dozen symptoms are the early symptoms, of greatest diagnostic importance.

To make the argument complete, let us look for a moment at the other side. If the patient who is sick has not had headache, there is very little probability that he has enteric fever. If his pulse is seventy-two or less, one would seldom be mistaken in declaring that the disease is not typhoid fever. Similarly, if the temperature, no antipyretic measure having been adopted, is below 99° F., one would hardly be justified in thinking that his patient has enteric fever.

In the absence of all of these symptoms, namely, headache, quickened pulse and elevated temperature, one need not hesitate to assure a patient that he has not enteric fever.

If, on the other hand, these are present, the probability is considerable that the disease is enteric fever, and this probability is increased if there is obtained a history of chilly sensations, frequently repeated for several days; of repeated epistaxis, and of diarrhea. Iliac gurgling and tenderness are also corroborative symptoms, which should always be looked for, and if present strengthen the diagnosis.

Turning now to still another side of the subject, the question is naturally suggested, what diseases are likely to be, and what actually are, mistaken for typhoid fever, and under what circumstances is an erroneous diagnosis of typhoid fever made.

When typhoid fever really exists, but is not correctly diagnosticated, it is in this vicinity most frequently called malarial fever, and at a later stage typhomalarial fever. This mistake generally depends upon a mixture of ignorance and carelessness. I do not care to attempt to maintain, at the present time, that typhomalarial fever never occurs. I presume that every one is aware that this term should, however, be strictly limited to cases of disease which are due to the simultaneous action of the typhoid and of the malarial poison. It is my firm conviction that most cases of so-called typhomalarial fever are in reality cases of ty-

phoid fever. If a malarial element is present in some of them, it is possible to remove it promptly by appropriate treatment. With regard to cases of so-called malarial fever, it should be remembered that most fevers which are caused by malarial poison are of a distinctly intermittent or remittent type. If, therefore, a case of continuous fever occurs, which is uninfluenced by adequate doses of the ordinarily used antiperiodics, there is good reason for challenging the diagnostic accuracy of any one who pronounces such a case malarial fever. In most cases of this kind the disease is enteric fever. Bilious fever is another term which is still occasionally heard, chiefly among men whose acquaintance with medical literature has not extended to publications of recent years. I believe that it is generally recognized by practitioners who are familiar with modern medical literature, that there is no pathological or clinical foundation for recognizing any form of disease as a distinct entity under this name.

The vital statistics of our city and State show a number of deaths reported as due to malarial and typhomalarial fevers, which is almost equal to the mortality reported from typhoid fever. There is little doubt that the majority of these reported cases represent mistakes in diagnosis, where enteric fever has been overlooked and called by another name.

The diseases which a careful practitioner will bear in mind when he makes the diagnosis of enteric fever, are intermittent fever, remittent fever, and acute catarrhal inflammation of the respiratory organs. In some cases it is impossible to make an absolutely certain diagnosis the first time the patient is seen. All three of these conditions may be accompanied by chills, by acceleration of the pulse, by elevation of the temperature and by headache. In intermittent fever, the complete subsidence of the fever in the interval between the paroxysms quickly settles the doubt, which may have existed, if the patient had been feeling in poor health before the occurrence of the paroxysm, if the chill had been slight, and if the pulse was rapid and weak. In remittent fever, the recurrence of chills at tolerably regular intervals, the lower rate of cardiac pulsation with less diminution of its force, the profuse perspiration, the prompt and favorable influence of adequate antiperiodic medication, and the absence of

abdominal symptoms, will generally enable one who takes an unprejudiced view of the case to come to an early decision as to the nature of his patient's malady.

Quite as puzzling as any others are the cases in which the patient has, as we are accustomed to say, taken cold, and in consequence has suffered for several days from headache and anorenia, has perhaps taken one or several doses of cathartic pills so that he has had pains in his abdomen and looseness of the bowels, and, at the time when he is examined, has some elevation of the temperature and somewhat quickened action of the heart. Time is an important aid to the diagnosis of these cases, which generally improve rapidly under appropriate treatment, while in cases of typhoid fever the symptoms do not improve, but on the contrary, particularly if expectant treatment is followed, generally grow worse.

Turning now to another side of the subject, what diseases are erroneously called typhoid fever?

I recollect that a man past middle life consulted me, as an office patient, a few times, in whose chest I discovered phthisical consolidation of a large part of the upper lobe of one lung. He died a few months later, under the care of a practitioner of long and extensive experience. The son of the deceased subsequently told me that the doctor said that his father had typhoid fever. Now perhaps that doctor and the relatives of his patient believed that the man actually had typhoid fever; but I did not, for I knew that the man had consumption, and that it would almost certainly kill him in the course of a few months—as it undoubtedly did. But cases of chronic consumption are not nearly as likely to be mistaken for typhoid fever as those of acute tuberculosis. Some of these cases are very difficult to distinguish from typhoid fever. Their onset, however, is generally distinctly more gradual and indefinite; the headache is a less striking symptom, the abdominal symptoms are less clearly defined, the thoracic symptoms are more marked, the daily variations of temperature are less regular and more extensive, and sweating is more common and more profuse.

Now and then we hear of some woman whose death is alleged to have been caused by typhoid fever, or even by typhomalarial fever, who had a baby two or three weeks before she died.

Now, without presuming to deny absolutely the possibility of this sequence of events, when you and I read or hear of such a case we do not believe that the woman really had typhoid fever. Most of us, I think, feel pretty confident that the woman died of puerperal septicemia.

In any case, when the patient has a high temperature and a quick, feeble pulse, the single fact that the patient has been confined a few days previously ought to lead the physician to doubt very strongly the existence of enteric fever.

Acute ulcerative endocarditis might, perhaps, be mistaken for typhoid fever. The petechial eruption of the former is, however, entirely different from the roseolar papules of the latter. The temperature of the former is more erratic, and the endocardial friction sounds, which are so constant in the former, are exceptional and accidental in the latter.

Typhus fever is so very rarely seen here that it is scarcely necessary to mention the great stupidity or hebetude (as the books call it), the flushed and congested cheek, and the petechial eruption so characteristic of this disease.

Septicemia and pyemia might be mistaken for typhoid fever; but generally careful examination will reveal some adequate cause for these disorders. In addition, the wide daily range of temperature, the profuse perspiration and the great prostration, are sufficiently distinctive to remove doubt.

What has been said has had reference chiefly to the early diagnosis of enteric fever. A few words of the later symptoms. The eruption is not infrequently present when the patient first consults his physician. If not, it generally appears in three or four days, and is then an important aid to diagnosis. The more a man looks for it, and the more he becomes accustomed to it, the more valuable information it gives him.

Recurrent intestinal hemorrhages constitute another aid to diagnosis late in the course of the disease. Many, I fancy, would feel inclined to question the accuracy of a diagnosis of inflammation of the bowels, if the patient died in three or four weeks of recurrent hemorrhages from the bowels.

The occurrence of sudamina during the later stages of the disease, and the falling out of the hair during convalescence, are occasionally of interest, as affording some confirmation of a diagnosis made several weeks before.

I will not trespass longer upon your time to discuss further the individual symptoms of the disease, or to enumerate and differentiate the different local diseases which, through carelessness, might be overlooked. It should be a matter of routine to exclude disease of each individual organ, before deciding that the patient is suffering from any general or infectious disease.

Fewer mistakes in diagnosis would be made, and better results in treatment would be obtained, if every practitioner would bear in mind the following rules:

1.—Never prescribe for a patient until you have counted his pulse, and asked him if he has headache.

2.—If he has headache, and his pulse is above seventy-two, never omit to take his temperature.

3.—If his temperature is elevated, his pulse accelerated and his head aching, never forget to ask yourself if he has typhoid fever.

4.—Do not postpone making your diagnosis until the patient has been sick two or three weeks. Make it the first time you see him, or at least at the very earliest possible moment.

BLINDNESS IN EARLY LIFE.

E. M. M^{c}CABE, B.A.,M.D., NEW HAVEN.

The subject of blindness in early life is one of deep interest and much importance to the general practitioner, because many of the cases in their incipiency and development come under his supervision and care, and also because immediate recognition and prompt treatment play a most important role in preventing disastrous and irreparable results; while oversight, neglect or improper treatment induce permanent, appalling and irremediable consequences.

I desire therefore to enlist the attention, interest and serious consideration of the physicians, upon whom devolve not only the preservation of health but also the conservation of the sight of the individuals entrusted to their care.

It is a deplorable fact that many of the cases of blindness in early life might have been prevented if recognized and properly treated at the outset. What then are the causes, and how may the dire consequences be prevented? In the statistics prepared by Magnus, confining himself to individuals under twenty years of age and gathered from sixty-four European institutions of the blind, he finds that out of 3204 cases of incurable blindness, 1060 cases, or thirty-three per cent. of the total number were due to idiopathic diseases of the eye.

Of these 1060 cases, 753 were due to blennorrhea or opthalmia neonatorum. That is, of all the cases of blindness not due to traumatism, not congenital nor constitutional (syphilis, scrofula, scarlatina), but idiopathic, two-thirds or 753 out of 1060 cases were due to opthalmia neonatorum.

Hausman has computed that twenty per cent. of the blind in Berlin, thirty per cent. in Vienna and forty-five per cent. in Paris, attribute the blindness to purulent conjunctivitis of infancy.

Dr. Lucien Howe, whose interest and labors in behalf of the blind are deserving of the highest commendation, has investigated the subject in the State of New York, and reports that of 509

cases of blindness of all ages, 14.51 per cent. were due to the same disease, while of those under twenty years, it was responsible for about twenty per cent. It is therefore only too evident that opthalmia neonatorum has been a most powerful factor in filling the asylums for the blind in Europe and America.

A disease which has such deplorable and lasting effects, which is productive of such lamentable consequences, demands and should receive our serious, constant and unremitting attention and consideration. Most amenable to treatment in its early stages, it is most obstinate and refractory after it has obtained a foothold. If neglected or overlooked, it entails life long misery and inestimable suffering and sorrow.

The responsibility of the profession is a great one, and a grave responsibility rests upon the physician who fails to recognize and appreciate the disease and its attendant dangers, or who neglects opportune, timely and proper treatment.

How, then, may it be recognized? What are the early manifestations or symptoms of the disease?

In his Diseases of the Eye, Noyes says that it presents itself under various degrees of intensity, with swelling of the lids with yellow, thick secretion issuing from the eye, or if dried upon the tarsal edges, it glues the lids to each other, and the conjunctiva, both ocular and palpebral, is reddened and swollen; at the beginning the secretion is comparatively thin, but it soon becomes thick and creamy. This quality indicates abatement in the activity of the process. There may be chemosis, and the palpebral conjunctiva be thickened and intensely red and spongy, with ridges and prominences, and be cleft by fissures between the enlarged papillæ.

The tumidity of the palpebral conjunctiva, which increases up to the fornix, is a notable feature. The cornea may remain clear, but its integrity is the object of anxiety. Its invasion may show, as the first sign, a diffused haziness, or a single spot of purulent infiltration, or an ulceration; while in weakly infants, of whom premature births and foundlings are often extreme examples, the cornea may suddenly break down with general infiltration and become a mass of general putrilage.

The place of ulceration in the cornea may be anywhere; if upon the periphery, and if it perforate, the iris falls into the opening and becomes permanently adherent and firm. Thus a

partial staphyloma may ensue, or, in case of less extensive destruction, nothing more than a distortion or concealment of the pupil.

Should the ulcer be central and not too large, so that it perforate and the sphincter iridis cannot be drawn into the opening, the lens will then come forward and rest in contact with the posterior surface of the cornea.

The patients do not seem to suffer much pain and usually nurse well.

TREATMENT.

It is in reference to this purulent conjunctivitis that the beneficial effects of preventive treatment, as compared with curative, are especially commendable and pronounced. The immense advantages of the preventive treatment, and thereby a diminution in the proportion of blind dependent on the State for support, has been officially recognized in the various countries of Europe, and temporarily in the State of New York.

The beneficial effects of preventive treatment have been clearly demonstrated by comparison of 8798 cases of six obstetricians using no treatment, with 8574 cases of five obstetricians using a two per cent. solution of nitrate of silver, after the method of Crede. Of the former cases 8.66% developed the disease; of the latter 0.656% suffered from purulent inflammation. So decidedly favorable have been the comparisons made by investigators that the governments in France, Austria and Switzerland have required midwives and nurses to call physicians to all patients showing symptoms of this disease.

In New York State, mainly through the efforts of Dr. Howe and a committee appointed by the State Society and the Opthalmological Society, the following law was enacted by the State Legislature:

AN ACT FOR THE PREVENTION OF BLINDNESS.

Section 1.—Should any midwife or nurse having charge of an infant in this State, notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse, so having charge of such infant, to report the fact in writing, within six

hours to the health-officer or some legally qualified practitioner of medicine of the city, town or district in which parents of the infant reside.

SECTION 2.—Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

SECTION 3.—This act shall take effect on the first of September, eighteen hundred and ninety.

This statute after an imperfect trial was repealed in eighteen hundred and ninety-one and the crime was made a felony punishable as such.

I am not aware that any official investigation has been made in this State, either by the medical societies or the local health-boards or individuals. The dangers of the importation of cholera and of typhus are the subjects of universal comment, conjecture and discussion, and the cause of anxiety and alarm; and great precautions are being taken against the introduction of the dreaded diseases.

But I wish to call your attention to the duty we owe to ourselves and to the profession we represent, to guard against a possible case of blindness due to ophthalmia neonatorum.

It is incumbent on the members of the profession to warn the midwives and nurses of the dangers and consequences of the disease, and to demand immediate notification if any signs of inflammation appear.

When the danger is recognized and the cases promptly treated, the number of blind shall be greatly lessened and the benefits recognized in an increased number of useful and clear-sighted members of society.

SECTION

OF

GENERAL SURGERY

AND

GYNECOLOGY.

SECTION OF GENERAL SURGERY AND GYNECOLOGY.

The Section of General Surgery and Gynecology was called to order by Dr. Carmalt, immediately upon the adjournment of the Convention.

Dr. Eliot read a paper on A Medical View of Appendicitis.

It was discussed by Dr. O. T. Osborn who said that in consultation we cannot lay down strong, hard, fast rules. We must judge each case by itself.

Dr. Fleischner thought that the surgeon should help decide as to the necessity of an operation, which may not always be as imperative as it seems to be. A quick surgeon might operate on a case with good results when such patient would recover by conservative treatment. It is hard to know when to operate. The diagnosis is difficult. A majority of cases which he calls appendicitis, get better. Two cases sent to New York for operation were not operated upon. Lives have been saved by operating in some cases; by temporizing in others.

Dr. Almy was called to take the chair and Dr. Carmalt remarked that he had seen ten cases in the last eight months. He operated yesterday upon a case in its sixth attack. History of the case was given.

Per contra, three weeks ago he had a case almost identical but the patient was in an anxious condition; his morale was bad. Saw him again thirty-six hours after; had his bowels moved. The patient felt well but when he raised himself for the bed-pan he screamed out. This was Saturday evening. Feeling anxiety about him, visited him early on Sunday morning Recognized the mischief. Although Dr. Bull had been sent for. from New York, he wouldn't wait but operated at once. The appendix, specimen shown, was gangrenous for the lower two-thirds. Above that and separated from it by half an inch was a concretion. The appendix had ruptured in three places. The peritoneal cavity was full of serum and there was much in

the pelvis. He died in thirty-six hours after the operation. The condition of this man was no worse than that of the other, excepting his morale. This caused delay in the operation, which was a mistake. It should have been done on Friday. He was first seen on Wednesday.

In another case a large abscess was found. This had been under observation for two years with peritonitis. He believes it to have been recurrent appendicitis.

As to the treatment, injury is done by opium. It clouds your patient. It is a delusion and a snare for a dependence.

The temperature is misleading. In the case narrated there was a fall of temperature. It was not subnormal but it lowered.

It is not wise to advise that an operation must be performed. Many cases recover. But, if a patient had had two attacks he would advise him to get rid of the offending member.

Dr. T. H. Russell cited a case which recovered without operation. Afterwards the patient went to New York to live and had his appendix removed.

Another case had acute symptoms and an operation seemed inevitable but convalescence occurred within three or four days. After recovery he advised removal of the appendix, but it was not done.

He has operated on eight or ten cases with one death. In that there was a large abscess in the median line. A diagnosis could not have been made. The child was dying of peritonitis.

He contrasted two cases in West Haven. One was a patient fourteen or fifteen years old with peritonitis, to which he was called in consultation. No diagnosis was made. It was afterwards found to be perforation of the appendix from concretions.

The other case was a second attack of appendicitis in the acute stage. Laparotomy was performed and the appendix removed. There was no rise of temperature following.

We must view this subject as Erichson views strangulated hernia. He never regretted operating too early: he has regretted operating too late.

Dr. Keen of Philadelphia has reported a case where the tenderness was at the border of the liver. McBurney's point is not reliable. The position of the appendix is variable, and the point may be elsewhere than the one by the New York

surgeon. A report made by an English surgeon has shown that the position of the appendix, as determined by dissections, is variable.

Dr. Wainwright.—It is folly to attempt to lay down an absolnte rnle. We arrive at no conclusion. Erichson's rule was a good one. He would allow no case to go longer than forty-eight hours. But you can't treat the disease by any rule. He doesn't approve of any feeling between medical and snrgical men. Give the patient the benefit of the best doubt. He calls in another snrgeon to share the responsibility. We should not discuss the snbject as if the patient would have done better if either a surgeon or a physician had it.

Dr. Osborn remarked that there was an interesting question of causation. Many cases in New Haven had been among students. Attacks of colic, pain and constipation had come on after violent exercise. It had suggested the question whether the pressnre of the mnscles forcing fluid into the appendix by sudden action was not a cause of the forming of the concretion.

Dr. Swain's paper, "The Surgical Treatment of Asthma," was read. Section adjourned.

REPORT ON THE PROGRESS OF SURGERY.

THOMAS H. RUSSELL, PH.B., M.D., NEW HAVEN.

Mr. President and Ladies and Gentlemen of the Connecticut Medical Society.

I deeply regret my inability to have more carefully prepared this paper, but, owing to the fact that I received no intimation that I should be called upon—until this month when the program was published—the time has been too brief to do anything like justice to the subject. You will therefore pardon me if I have not more fully described the improvements in surgery. We have not yet *quite* reached the time predicted by a modern surgical writer, when it will be obligatory for all parents to take their children—soon after birth—to a surgeon to have every appendix removed and to have laparotomy performed upon each one for the formation of trap-doors in their abdominal walls, the incision being closed up by ordinary shirt-buttons. Thus whenever in after life the individual has any trivial or severe trouble with any of his abdominal viscera, the family physician can, after unbuttoning the patient's shirt, unbutton the *abdominal wall* also—three or four times daily if necessary—to inspect and handle various organs and apply his remedies directly to any of them.

The yearly progress in surgery causes such seemingly absurd predictions to appear less impossible of fulfilment.

SURGERY OF THE BRAIN.

Dr. M. Schmidt has recently recommended that in cases in which pus collections are supposed to exist in any portion of the brain but in which the diagnosis is still somewhat obscure, it would be safe and proper to drill small perforations through any portion of the skull, to be followed by exploratory punctures of the brain with the hypodermic needle. He recommends that

this should be done by drills having a diameter of from one to three millimeters, fixed into a carpenter's bracc, a guard being placed on the drill to insure its not penetrating too deeply. In this way the various portions of the skull may be drilled, and through the apertures made in the skull extensive explorations can be made with the hypodermic needle for deposits of pus. If pus *is* found, the trephine can be used to enlarge the opening made by the drill. He recommends that when the abscess is supposed to be situated in the cerebellum, the skull should be perforated below the tentorium. He regards the danger of the operation as trivial compared with the advantages to be obtained if proper antiseptic precautions are employed.

Trephining for intracranial hemorrhage has proved successful in a sufficient number of cases to appear to entitle it to serious consideration as a proper surgical procedure, and the same may be said of the operation for cerebral abscess. Trephining for traumatic epilepsy has been successfully performed, as shown by a small number of recorded cases. It would appear that the operation can only be expected to succeed where the disease is evidently of traumatic origin.

Operations for linear craniotomy for microcephalus would appear to warrant their performance in future, although only slightly successful thus far.

The prognosis in fractures of the base of the skull is very much more favorable than formerly. Whereas at one time such injuries were considered almost inevitably fatal, later statistics have shown that a very considerable portion recover.

SURGERY OF THE SPINE.

The surgery of the spine has attracted more attention than formerly. White considers that operative interference is useful in cases of tuberculous abscess of the spine, or in those cases where the cord is compressed by pus, by necrosed bone, or by pachymeningitis. Prognosis is favorable in proportion to the strength and youth of the patient, in the absence of general tuberculosis and the proximity of the lesion to the lower end of the column. Reider has reported recovery after fracture of several of the dorsal vertebræ, in which he excised the spinous processes and laminæ of the fifth and sixth dorsal vertebræ and the

arches of the tenth and eleventh dorsal vertebræ. Knox has reported the case of a boy of thirteen who extensively fractured the eleventh dorsal vertebra. Incisions were made down to the point of fracture and the fragments replaced and the boy recovered. A successful operation for fracture of the third lumbar vertebra was reported by Starr.

Angular curvature of the spine with paraplegia has been successfully and satisfactorily operated upon by Lane. He reports eleven cases of spinectomy for the relief of compression—paraplegia due to spinal caries—and his results have been such as to lead him to urge that all such cases should be operated upon with the least possible delay.

TRACHEOTOMY VS. INTUBATION.

In last August Dr. R. W. Lovett of Boston published an extremely important paper which settled as far as possible the relative value of tracheotomy and intubation for diphtheritic croup. Comparing between three and four hundred cases of each operation in the same wards of the Boston City Hospital, under as nearly as possible precisely similar circumstances, excepting that the cases operated upon by tracheotomy averaged much more severe than those intubated, he proved that tracheotomy made a much more favorable showing upon the severe cases than intubation did with even a milder class of cases. The results proved that tracheotomy is very much to be preferred to intubation in every case of diphtheritic croup in patients over two years of age. The statistics which he gives are so greatly in favor of tracheotomy that it seems as if the author were justified in condemning intubation in patients over two years of age. He seems to be especially warranted in protesting against the practice of intubation as a tentative measure, to be followed later by tracheotomy, if the case does badly; for he has shown that intubation causes a subsequent tracheotomy on the same patient to be almost inevitably fatal.

OPERATIONS UPON THE STOMACH.

Billroth has recorded one hundred and twenty-four cases of resection of the stomach and the intestinal canal and of gastro-

enterostomy. In these cases he has preferred the use of sterilized silk. He found a greater percentage of deaths from anemia and collapse after resection of the pylorus than after gastroenterostomy. Several of his cases died from peritonitis caused by contact with the contents of the intestines. He prefers that the intestines should be held by an assistant rather than by clamps or ligatures. In cases of pyloric stenosis he considers gastroenterostomy safer than resection of the pylorus. He considers that resection of the colon is only possible at the lower end of the sigmoid flexure. He performed the operation twice and is unwilling to undertake it again.

J. W. Taylor has reported a case of digital dilatation of the pylorus, the wound in the stomach being closed with a continuous silk Lembert suture; but Cutter and Richardson report a case of the same kind which ended fatally. Prof. Senn of Chicago considers that gastroenterostomy, with large, perforated, decalcified bone plates, should be performed in cases of malignant stenosis of the pylorus as soon as a positive diagnosis can be made out. Klemperer refers to three cases of pylorectomy in which the operation had been performed. The first case was a complete success, but the patient died of phthisis six months later; the second died quickly after the operation; the third case recovered.

Bull has reported three cases of operation for cancer of the stomach. He established anastomosis between the stomach and jejunum. He prefers the fingers of an assistant to the use of clamps to prevent the escape of contents.

Statistics having shown that out of thirteen hundred cases of cancer of the stomach one-half involved the pylorus, and one-half of these latter were uncomplicated by the neighboring glands being involved, it would appear that one-half of the cases of cancer of the pylorus might be operated upon with propriety.

The need of careful suturing in operations in pylorectomy and gastroenterostomy is especially evident in a series of five fatal cases. The death in each case was the result of faulty suturing, and it has been shown as especially important that in passing the sutures the needle should penetrate into the submucosa, and that the sutures be not tied too tightly, lest sloughing result.

Weir has called attention to the fact that the comparative

mortality between gastroenterostomy and resection of the pylorus is so much in favor of the former that it should be very much preferred in stenosis of the pylorus, the operation of resection of the pylorus being followed by fearful mortality, and he considers it should be relegated to a place among the experimental procedures.

SURGERY OF THE LIVER.

In abscess of the liver Demler has advocated *early* operation, as previously advised by Little, considering it unwise to wait until the abscess begins to point externally. He strongly advocates exploratory punctures. He has reported five cases with one death.

Several cases have been reported of speedy recovery from hepatic abscess by free drainage, and one was reported by W. A. Lane which showed that *bile* is not as irritating to the peritoneum as was formerly supposed. In his case the gall-bladder was ruptured by external violence. A considerable quantity of bile escaped into the peritoneum and no operation was performed until five weeks later, when three gallons of fluid very deeply stained with bile were removed from the peritoneal cavity and the patient recovered completely.

Pavy has found that the secretion of bile in dogs and rabbits caused no harm, even when it had escaped in *considerable quantity* into the peritoneal cavity, and he considers it proven that at least in animals bile is *not* an irritant to the peritoneum.

This has an important bearing upon operations upon the gall-bladder, and, as Lane states, will cause the surgeon to have much more courage in operating upon the gall-bladder and bile-ducts than formerly.

ABDOMINAL OPERATIONS.

A. F. Currier has called attention to the fact that in abdominal operations the omentum should be preserved as nearly intact as possible, and badly injured portions should be resected carefully, and also such portions as cannot be replaced in their original position so as to perform their proper functions, and that before closing the wound the omentum should be carefully replaced so as to perform its function as a natural covering of the intestine.

Terrilon has recommended that in cysts of the mesentery the surgeon should not attempt to completely enucleate the cyst, because in so doing he is liable to lacerate the intestine or omentum or to divide neighboring large vessels. He advocates rather the abdominal section and tapping and cautious removal of as much cyst wall as can be safely detached. The margin of the cyst is then to be stitched to the abdominal wound, through which it is allowed to drain.

LAPAROTOMY FOR PURULENT PERITONITIS.

Krecke has shown that in diffuse purulent peritonitis laparotomy has been the means of saving many lives. He is averse to irrigation owing to the probability of its spreading the septic material to other portions of the peritoneal cavity. He recommends simple incision, drainage, and the use of iodoform gauze. He calls attention to the great tolerance of the peritoneum. He has collected one hundred and nineteen cases of general peritonitis treated by laparotomy, of whom fifty-one recovered and sixty-eight died.

As a further instance justifying laparotomy for purulent peritonitis, W. A. Stewart reports a case of purulent peritonitis in a female child of four years of age, with recovery after laparotomy. In this case four pints of very thick pus with clots of fibrin were removed, and the drainage-tube introduced. The child was discharged cured in a little over a month.

Attention has been called by C. H. Dalton to the fact that violent peritonitis may exist without an adnormally high temperature, and that the thermometer is not a reliable guide in deciding the question of operation.

INTESTINAL SURGERY.

W. S. Halstead of Baltimore has called attention to the very important fact that the peritoneal covering of the intestines is so thin that it cannot be represented by the width of a pencil stroke, unless the intestinal wall be magnified to a thickness of about five centimeters. He considers therefore that it is *absurd* to speak of a suture which includes only the serosa, and that a suture which includes only the peritoneal and muscular coats is a very weak and unreliable one. The *submucosa* being an ex-

ceedingly *tough* coat, all sutures to insure safety should penetrate it.

Dawbarn, as a result of many experiments, is more than ever convinced that raw potato plates as a substitute for Senn's bone plates are the best aid in intestinal anastomosis. The plates are one-third of an inch, or slightly more, in thickness, and so long that the opening should be twice the normal diameter of the gut to be operated upon. He certainly deserves great credit for calling attention to such an easily obtained material for plates for anastomosis. He published a paper on the subject in February, 1893.

Mayo Robson has successfully employed decalcified bone tubes shaped like a cotton bobbin in several cases of intestinal anastomosis and in resection of the bowel. He claims that by their use only two rows of continuous sutures are needed and that greater security against leakage and rapidity of operation with an immediately patent opening can be obtained. His method is worthy of close attention and can be found described in Medico Chirurgical Transactions, 1892.

As an illustration of what great advances are being proposed in intestinal surgery, Dr. J. B. Bacon of Chicago has published this month a paper advising that in strictures of the rectum a loup of *normal* small intestine should be excised while retaining its attachment to the mesenteric blood-vessels, this having been successfully accomplished on animals and that this piece should be placed alongside the rectum and attached to it so as to extend above and below the rectal stricture. An anastomosis is then to be made between each extremity of this tranplanted small intestine and the rectum above and below the stricture. Thus the contents of the rectum above the obstruction will pass out into the transplanted intestine and through it again into the rectum below.

Dr. Von Barax of Hamburg has during the past year proposed for intestinal anastomosis the use of plates made from raw Swedish turnips, urging that they can be easily obtained and quickly prepared. He has used them satisfactorily on a number of dogs and on one living man. It would not appear, however, that they are any better than the raw potato plates suggested by Dawbarn.

Greig Smith in the Lancet for March 12th, 1892, has called attention to the great importance of evacuation and drainage of the contents of the intestine where in cases of obstruction distension is prominent, for he shows that overdistension of the intestinal wall is a considerable factor in causing obstruction. He considers that no operation for intestinal obstruction is complete until this factor is removed.

It seems to have become more and more settled that gunshot and other penetrating abdominal wounds demand immediate exploratory laparotomy. Inguinal colotomy appears to be now generally preferred to the operation in the lumbar region.

STRANGULATED HERNIA.

Finckelstein has drawn attention to the results of sixty-three cases of strangulated hernia, fifty three of which he successfully reduced by *local* etherization. His account of it would indicate that it was well worthy of trial. He places the patient on the back with the pelvis slightly elevated, and thighs flexed, the surrounding parts being protected by a liberal coating of olive oil. About every ten minutes a tablespoonful of sulphuric ether is poured over the hernia and the ring, until the tumor loses its tightness and decreases in size, when it slips back spontaneously and with only slight aid from the medical attendant. He considers that omental herniæ are not relieved by this plan, but that in intestinal herniæ it is very successful. A few days ago I employed this simple method very successfully in a case of strangulated *femoral* hernia in which ordinary taxis had failed.

APPENDICITIS.

It seems to be more firmly established that appendicitis belongs to the province of surgery rather than medicine. According to Fitz's statistics, there is a mortality of twenty-five per cent. under the expectant treatment. Fitz, who has had unusual opportunities for observation, says that five-eighths of all cases and one-fourth of the cases which have been treated medically alone, should have been operated upon. While statistics of early operation have not yet been formulated, McBurney has reported twenty-four cases with only one death. It must be conceded that some cases recover under medical treatment alone.

No surgeon could probably be found who would advise operation in every case.

McBurney states: "It is *not* best to wait for strong evidence of perforation, abscess, or general peritonitis." "By the end of thirty-six hours, sometimes much earlier, the question of operation should be deliberately discussed."

The aspirating needle should never be used in making a diagnosis. It seems to be more generally admitted that the location of the appendix is so variable that the McBurney point is not of as much diagnostic importance as was formerly considered. Keene mentions a case where in an abscess at the tip of the appendix, the most tender point was just under the border of the liver, far away from McBurney's point.

UTERINE HEMORRHAGE.

Dr. F. H. Martin has devised a new operation for the treatment of hemorrhage from uterine fibroids. The patient is placed in the dorsal position, and anesthetized, and then a strong silk ligature is inserted through the cervix in order to control it and bring the uterus a little down. Then the incision is made on one side of the vagina about an inch long through the fornix. Through this the finger is passed up into the tissue of the broad ligament where the uterine artery can be distinctly felt and ligated under the eye. The ligature is passed around the artery with a curved needle, care being taken to avoid the ureter. The uterine arteries, on both sides, are ligated in the same manner. It is stated that the operation is comparatively free from danger and that it will displace to some extent abdominal hysterectomy.

PERFORATION IN TYPHOID FEVER.

"Van Hook" published a paper in January, 1892, showing the great importance of the early performance of laparotomy for intestinal perforation in typhoid fever in every case unless the patient be actually moribund. He reports three cases, one of which recovered. The performance of the operation is an imperative duty unless the patient be completely collapsed. No other treatment can be of any avail. The operation should secure closure of the perforation, cleansing of the peritoneum and drainage.

Dr. R. H. Reid published a paper last September in which he appears to have demonstrated by numerous successful experiments upon animals the feasibility of implantation of the *ureter* into the rectum, and he proposes that this operation be resorted to to avoid the formidable operation of nephrectomy in laparotomy for neoplasms in which one or both of the ureters may be involved.

Trendelenberg's position in laparatomies appears to be growing in favor. It seems to be generally conceded that it allows of better access to the pelvic viscera.

CRAWFORD'S NEEDLE.

T. J. Crawford of Memphis has introduced a *very* useful instrument which is a needle intended especially for abdominal work. It is long and slightly curved, adapting it to the introduction of sutures through both sides of the abdominal wound at one stroke. It has a good sized handle and by it, both edges of the abdominal wall being punctured at one stroke, it is possible to close the abdominal wound very much more quickly than by any other method, and it is deserving of general attention.

BLADDER.

Suprapubic cystotomy as a means of access to the bladder for purposes of diagnosis or the relief of various lesions of the bladder and prostate seems destined to increase in favor. With the improvement in antiseptic methods and the increased safety and simplicity of the operation, as well as the improvement in technique, statistics would show that it was becoming increasingly worthy of an established position among surgical operations.

PROSTATE.

The operation of prostatectomy for the removal of those portions of the prostate which form obstructions at the neck of the bladder is gradually becoming more satisfactory. Keyes has reported eleven cases with only two deaths. It is performed through a suprapubic incision rather than through the perineum. Only projecting portions, and not the entire gland, are removed, with the finger only, or with curved scissors or rongeur.

Watson has shown from statistics that *lumbar* nephrectomy is

the proper operation in cases of pyonephritis or hydronephritis and renal calculus, while cancerous and sarcomatous and other tumors of the kidney should be operated upon through *abdominal* incision.

AMPUTATIONS.

Wyeth, referring to his method of amputation at the hip joint by skewers, has more recently shown that serious shock may in some cases be avoided by performing the operation *in two sittings*. The amputation may be finished with the exception of removing the head of the femur from the acetabulum, and the wound closed. After repair has taken place and the patient is well on toward recovery, the head of the bone may be excised through an external lateral incision. Wyeth also recommends his bloodless skewer method for amputation at the shoulder joint.

Prof. Senn has recently described *his* new method of bloodless amputation at the hip joint. There is hardly time to give a detailed description of it. Those wishing for a full description can find it in the *Clinical Review* for February, 1893, and reference to it in the *Annals of Surgery* for May, 1893.

BONE GRAFTING.

Kummell has called special attention to bone grafting, reporting seventeen cases, employing pieces of partially decalcified bone with solid centers and fashioned to the shape of the defect which he intends to fill. It seems to have been demonstrated, as in the case reported by Phelps of the Charity Hospital, that the operation of bone grafting is a success in so far as it establishes the principle that it is possible to graft large masses of tissue from animal to man, and to establish the circulation until union takes place between opposite species without danger to either. The patient upon whom the operation was performed was a boy having an ununited fracture of the tibia at the lower third, the fragments being separated about an inch. The bone graft was obtained from the ulna of a dog a short distance below the elbow joint, in such a manner as to preserve its attachments of nutrient artery to the surrounding soft parts. The dog together with the patient's leg were enveloped in suitable dressings and the graft inserted between the fragments of the

tibia. Circulation was established, and the feasibility of the procedure seemed to be proven.

SURGICAL DRESSINGS.

Howard Kelly has advocated a dressing which hermetically seals wounds with the certainty of preventing the invasion of pathogenic organisms from without. After closure of the incision, the skin, the line of the wound, and the suture are dried and two layers of sterilized gauze large enough to project from two to four inches beyond the incision on all sides are laid on the skin. This is saturated with an adhesive mixture composed of Squibb's ether and absolute alcohol, equal parts; bichloride of mercury enough to make the solution one sixteen-hundredth; enough of Anthony's snowy cotton to make a syrupy consistency. This is poured over the wound and gradually hardens; and over the whole is dusted iodoform one part and boracic acid seven parts. The wound thus dressed is left untouched for a week or more, and at the end of that time it is softened and removed by the application of ether.

The process by which the hands of the operator may be rendered most certainly absolutely antiseptic appears to be that to which attention has been brought by H. A. Kelly. The finger nails having been shortened to not more than one millimeter in length and cleaned, the hands are to be scrubbed for ten minutes in water frequently changed, at a temperature of 104°. The hands are then to be immersed in a saturated solution of permanganate of potash in boiling water, until every portion of the hands and lower fore-arms is stained almost black. They are then immersed in a saturated solution of oxalic acid until entirely decolorized. The oxalic acid is then washed off with warm distilled water.

In fifty experiments of disinfection by this means, no growths could be obtained from forty-four. While this method of preparing the hands for surgical operations is probably the most efficient one known, yet its frequent repetition appears to be slightly injurious to the skin and nails.

As considerable care is required in thoroughly cleansing and preparing sponges which have been once used, it would appear preferable and safer to use pads of sterilized gauze for cleansing

of wounds during operations. Such pads of gauze can be completely sterilized before the operation, are nearly as absorbent as sponges are and can be destroyed afterwards and are inexpensive. It appears probable that some such substitute will supercede sponges for many operations.

For preventing needles from rusting, Dawbarn has advised that they be cleansed with benzine and stuck into pieces of cork and kept in glass-stoppered bottles filled with absolute alcohol.

The importance of steam for sterilizing surgical dressings seems to be admitted by most but *not* all surgeons.

It would appear that the necessary sterilizing apparatus is generally to be found only in hospitals or other public institutions. It should be stated that as high an authority as Lawson Tate has written that he pays not the slightest regard to sterilization of any kind and he considers the whole of such precaution farcical. It seems probable, however, in spite of his statement to the contrary, that sterilization will still be employed in the preparation of surgical dressings.

STRICTURE OF THE MALE URETHRA.

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In bringing this subject before the Society I cannot hope, in the space to which I have thought proper to restrict this paper, to enter upon a full discussion of all the forms of urethral stricture in the male, or the many modes of treatment which have been laid down by the eminent authorities in this department of surgery, but shall confine myself to a description of those forms which, from my own experience, are most likely to come under the observation of the general practitioner and the modes of treatment which have been the most efficient.

Stricture of the male urethra may be due to many causes, traumatic violence of any sort, especially bruising of the canal transversely; congenital imperfections, particularly those of the meatus; masturbation and gonorrhea. But of all causes gonorrhea is the most prolific, being the cause in at least ninety-five per cent. of all cases of true urethral stricture, and although, accurately speaking, urethral stricture is not a venereal disease in any sense of the term, it has been so classed by many because of the close relation it bears to gonorrhea in the great majority of cases.

Urethral stricture may, for the purposes of this paper, be divided into three classes: Spasmodic stricture, organic stricture of large caliber, and organic stricture of small caliber. The existence of spasmodic stricture of the urethra has been doubted by many, but in my opinion is plainly a reality. It may and often does complicate the other forms of stricture and give to them an importance which they otherwise would not possess; or, in other words, brings many strictures of large caliber into notice which, if it were not for the spasmodic complications, would never have been known. It may depend upon a multitude of causes, general as well as local, moral as well as physical. Who cannot recall cases where the effect of anger, shame, anxiety, or

strong emotions of any sort, have made it impossible for a perfectly healthy man sometimes to make water at all for a considerable time? This retention is due to true spasm, and there will be found no organic changes in the urethra.

Also often the different conditions in which we find organic stricture, sometimes allowing only a few drops of urine to be painfully passed, at others a considerable free stream to be voided, is due more to spasm than to any purely inflammatory changes in the stricture; also the grasping of the sound by an organic stricture, through which an instrument has been passed, is due to spasm and that form of partial or complete retention sometimes seen in a stricture of large caliber, especially in the pendulous portion, is due to spasm, as may be proven by the ease with which a full-sized instrument may be passed without nsing any force. It is often very difficult to discover the cause of deep urethral irritability and spasm, and I believe that nearly all cases of spasmodic stricture are situated in the membranous portion of the urethra, and it has even been claimed by some that all strictures of the membranous portion are spasmodic and not organic, but I think this opinion is not accepted by the majority of the authorities.

In the treatment of this class of strictures, the cause must first be discovered. If from diseases outside of the urethra, as surgical injuries, intestinal worms, hemorrhoids, cancer of rectum, etc., or from emotional causes, appropriate measures for their removal will suggest themselves as required; if from organic stricture of the anterior portion of the urethra, that must be cured by means to be mentioned later on. In all cases the most prominent symptom to be relieved is that of retention. Of the many measures used to this end the only one that I have any confidence iu is the passage of a catheter. This I believe can be done in most every case if due patience is used. I have met with three cases where the retention was of several hours standing and it was impossible, or seemed to be at least. After prolonged trial to pass an instrument into the bladder, and after aspiration of the bladder, a full sized instrument could be passed without much effort.

Organic stricture of large caliber may be found in the whole length of the urethra from the meatus to the apex of the prostate.

I believe that there is no question as to stricture of the prostatic portion. Obstruction to the passage of urine and the introduction of instruments frequently occurs, but due to congestive, hypertrophic or degenerative changes of the prostatic body and not to stricture of the sinus itself.

The distinction between a large and small caliber stricture is of course a matter of opinion and cannot be definitely fixed. I will call all those through which a number fifteen French metallic sound can be passed, large, and those through which it will not pass, small.

The symptoms of stricture of large caliber are varied. The most common is a gleet more or less purulent, (but in some cases this is wanting), cystitis, sciatica and nervous troubles in different parts of the body. Another and a very constant symptom is the occurrence of "little threadlike bodies or rolls of a white material which float around in the freshly voided urine." These are clusters of pus corpuscles from the granular surface behind the stricture which have gathered there like a scab and are washed out by the stream of urine.

This symptom, with or without a gleet, is what brings the patient to the physician in most of the cases, and in my opinion the great majority of this class of stricture produce no symptoms whatsoever, otherwise than these.

The clinical diagnosis of stricture of large caliber in the pendulous urethra is easy. A bulbous bougie, preferably of silver, as large as the meatus will take, should be warmed and oiled and passed gently through the urethra. When it reaches a stricture it can easily be felt by both the physician and patient. If it will not pass the obstruction change to one much smaller, and proceed until one of the size of the stricture is found. By these bougies the length, as well as the size, of the stricture can accurately be measured, also their number, if there be more than one.

If the contracted spot is the seat of the gleety discharge, the top of the bulb will generally be found tinged with blood upon withdrawal.

If there be an abnormal narrowing of the orifice of the urethra from any cause you cannot properly explore the canal with bulbous bougies from before, backwards although with the urethrotometer of Dr. Otis it can easily be done from below, upward.

With this instrument I have had very little experience, and as I believe it to be the accepted fact, that nothing will cure a stricture at or near the meatus, except cutting, my practice has been to cut the meatus and any tight spot within an inch of it at once. Cut to what seems to be a little larger than the normal size, as there is generally a little contraction in healing. This operation is in itself of no great importance, causes but little pain and is commonly done without an anesthetic. I have never seen it give rise to any urethral chill, or any complications or discomfort.

Stricture of large caliber in the deep urethra is best diagnosed by the blunt sound. This, of a size as large as the anterior urethra will admit, well warmed and oiled, must be gently passed and pressed firmly with a steady hand for some minutes upon the face of the stricture. If it is spasmodic it will in most cases presently slip along and pass into the bladder. If it will not pass, the stricture is probably organic and then use smaller sounds until satisfied as to the size and location of the stricture.

The symptoms of small or tight organic stricture vary with the degree of tightness. The most marked and constant symptom is a diminution of the size of the stream of urine. The flow may be projected in full force and the stream be smooth, but it must be diminished in size. Generally it is not smooth, but flattened or distorted. One stream may flow away with some force while another starts below it and twists around it or dribbles down or to either side. If the stricture is quite tight the stream commonly starts drop by drop with great pain, and only after considerable time and with great effort by the patient, will flow with a continuous stream. Retention from colds, etc., will be frequent. Gleet is a most constant symptom of tight stricture. Irritability of the bladder is very common. Cystitis mild or severe is always present in cases of long standing, followed in the end by general chronic inflammation of the bladder, with its long train of attending evils.

The diagnosis of small or light stricture is nearly the same as that of large caliber stricture, commencing with large instruments and working down to the small sizes until you are convinced that it is true organic and not spasmodic and have located and measured its size.

I believe that the most appropriate treatment of all organic stricture both of large and small caliber is by dilatation at first, and it will in most cases prove to be effectual. If it fails we can then use other measures.

Stricture in the deep urethra, whether large or small, should always, if possible, be treated by dilatation, as interual urethrotomy in this portion of the urethra is fraught with great danger to the patient, and even in most cases it has to be followed by a course of dilatatiou to preveut recontraction upon healing aud to effect a cure.

Dilatation contains no element of danger to the patient, if properly performed, except that of urethral fever. This is common to all operatious upou the urethra, aud ofteu follows the simple passage of a catheter or the introduction of a sound, as well as the more severe operations upon the urethra. The cause of it is not well known. Nervous shock, reflected from the urethra to the rest of the urinary system, seems to be the most plausible explauation. Some patients bear any amount of instrumentation without fever, and others none at all, and even in those who have fever after the first introduction of an instrument there are few but who bear it well afterwards. I have uever seeu a fatal case of this fever, but that such are not infrequent there is no doubt, especially in persons having diseased kidneys.

The treatment of stricture of large caliber, either in the pendulous or deep portion of the caual, by dilatation, is best effected by the conical sound, made of steel nickeled, tapering about two and three-quarter iuches, with what is called the short curve, with an extra short curve of the last half inch near the break. The couicity extends through seven sizes, makiug the introductiou of one of these instruments equal the introduction of seven sounds of the bluut pattern. It is an instrumeut of great power and should be used with caution and gentleness.

At the first sitting a sound of moderate size, one that will dilate the stricture but little, after warming and oiling, should be introduced and immediately withdrawn. The time for the reintroduction must be determined by the effect produced by the iustrument on the trial trip. Ofteu there is a little more pain iu uriuation and some increase in the discharge. Gener-

ally five days should elapse before the second instrumentation. I then pass the same sound, withdraw, and follow with one from one to three sizes larger. If this does not aggravate the symptoms nnduly I repeat this proceeding, every five days, increasing the sizes each time, using on each occasion a conical sound as large as will pass. The symptoms generally yield entirely in about two months. After the symptoms have disappeared the treatment shonld be discontinued gradually, using the largest sized sound that has been passed, once a week for three weeks, and then once in fifteen days for two months. This in mild cases of stricture is the history of their cure, and the patient will in most cases remain so the rest of his life if he does not expose himself to the causes of urethritis. For it must be acknowledged that he is capable of getting a new gleet from lighter cause than if he had never had strictnre.

There is a class of stricture of large caliber in the pendnlous nrethra which does, not yield to dilatation beyond a certain point. The symptoms yield, but do not disappear. There will remain a small amount of gleet which persistently shows itself in the morning to the disgnst of both patient and physician. This may be from general poor health or perverted sexual habits, but is commonly from what is called resilient stricture. These have a retractile quality in them so that beyond a certain point they will not dilate. In these cases internal nrethrotomy offers the best chance of cure. The cut shonld be deep enough to completely cnt through the nnyielding contractile ring, and the after treatment by dilatation the same as though it had not been cnt.

Organic stricture of small caliber in the deep nrethra should be treated by dilatation, if possible, using the soft rubber instrument at first nntil dilated to size fifteen French, and then treat with conical steel sounds as for large caliber strictnre.

Light strictures in the pendulous portion are best treated at first by internal nrethrotomy, followed by dilatation, as they are generally resilient, and too much time would be lost in trying to dilate a very tight structure in that portion of the canal, and cutting does not have the danger to the patient in the pendnlous as in the deep urethra.

A review of the two hundred and forty-one cases of urethral

stricture treated by myself during the past twenty years shows that fourteen were of small caliber—that is, through which a number fifteen French sound would not pass. Eleven were situated in the deep and three in the pendulous urethra. Two hundred and twenty-seven were of large caliber, those where a number fifteen French or larger sound could be passed. Of these, forty-seven were in the deep urethra and one hundred and eighty-six in the pendulous urethra; six of them either at the meatus or within one inch of the orifice.

The fourteen cases of tight stricture were treated by persistent dilatation after the manner described. All were benefited, and five permanently cured. The others passed from under my care before a cure could be claimed, being transient persons.

Of the forty-seven of large caliber in the deep urethra, dilatation with conical sounds was the treatment in all. There was improvement more or less marked in all, and complete cure in twenty of the cases. I mean by cure that there has been no need of a renewal of treatment since it was discontinued, which was in some cases nearly twenty years ago. Of the twenty-seven others, eight are of too recent occurrence to claim a cure, having been under treatment within a year. Of the nineteen others, relapses have occurred requiring renewal of treatment in one case about every eight months, another every two years, another three relapses in fifteen years, the others relapsing every year or two.

Of the one hundred and eighty-six in the pendulous portion, six resisted all dilatation and were cut. Three of these treated nine, eleven and twelve years ago have remained cured, and require no treatment; the others require the passage of sounds at intervals of a few months, although they are of longer standing than the others, being operated upon seventeen and eighteen years ago. I am not certain but the reason of their relapses is that the cutting operation was not as thoroughly done as in the other three, but the relief from the passage of sounds a few times is so complete and the trouble so little that they will not consent to a cutting operation again.

In the six cases at or near the meatus, cutting was practiced with complete success in all.

Of the one hundred and seventy-four remaining, all were treated by dilatation and all cured, or rather discharged, all symptoms having disappeared. Of this number only sixty-eight have remained where relapses, if they occurred, would be known to me. Of these, all remain cured, and in none of them has less than one year elapsed since their discharge.

From my experience in cases of stricture of the urethra, I may state in the words of another:

"That stricture of large caliber in the pendulous urethra may be cured by a variety of means, so that its symptoms may cease forever, without the necessity for any further use of instruments in the canal."

"The same is true regarding the treatment of a mild stricture of the deep urethra cured by dilatation."

"Resilient stricture of large caliber in the pendulous urethra is often incurable except by the knife, and internal urethrotomy, if the cut be large enough, will generally cure the symptoms of such a stricture, so they will not return, although no instruments are used in the urethra after the cut is well."

"Small organic stricture in the pendulous urethra are probably always best managed by internal urethrotomy."

"Stricture of the deep urethra, when organic and situated at or beyond the bulbomembranous junction, cannot, all of them, with certainty, be radically cured by any operation or by any treatment."

"The best treatment in these cases is always dilatation when practicable. Sometimes after dilatation has been maintained for a long period, the tendency to recontraction ceases, and the patient remains well, so far as symptoms are concerned, without the necessity of any further instrumentation in the urethra."

Possibly a like case may occasionally follow internal urethrotomy as well as external urethrotomy, but in the majority of instances of nodular, organic and traumatic stricture of the deep urethra, a cure is not obtained radically by any operation yet known, and the patient's safety consists in a maintenance of the caliber of the urethra by the occasional passage of a full-sized instrument through the obstruction for the rest

of his life, a task not considered at all difficult by those who do it.

There are many forms of stricture and methods of treatment which I have not mentioned, but I have endeavored to show that the general practitioner, if he follows the methods I have found to be best, will have a more than moderate success in the treatment of a class of disease, the treatment of which is avoided by the majority of physicians.

DISEASE OF THE PROSTATE GLAND.

ITS DIAGNOSIS AND TREATMENT.

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PROGNOSIS.

If the prostate be hypertrophied only posteriorly, and does not thus cause any obstruction at the orifice of the bladder but merely a projection into the rectum, it may not shorten life in the least, nor cause any discomfort nor annoyance to the patient, nor in fact, be recognized. Some such patients with marked *posterior* hypertrophy live out their lives in comfort and die of some other disease having no relation to the prostate, without their physicians or themselves being aware that such hypertrophy existed. No patients, however, suffering from intra vesical hypertrophy, especially if it be of the posterior or middle lobe, can ever be said to recover. If we except the very modern operation of prostatectomy, no measures at our disposal can remove the disease. It must be conceded that there are no drugs in the materia medica which will reduce the size of an hypertrophied prostate, and unless the hypertrophied intra vesical portions be removed by prostatectomy the patient cannot expect any permanent relief. A great deal can be done by various measures, principally surgical, to greatly palliate symptoms, relieve pain and discomfort, and greatly prolong life, but the disease pursues a pretty definite course, the different stages of which can only be lengthened by treatment, and tends to greatly shorten life. The degree to which life may be prolonged by appropriate treatment varies greatly, depending largely upon the stage of the disease at which treatment has been commenced, for much more can be accomplished if this be begun when the

amount of residual urine is still very small, and before cystitis has commenced. Without treatment any case would progress very steadily to a fatal termination. If treatment be begun early, and intelligently and faithfully carried out, the patient may continue to live and enjoy a fair degree of comfort for ten, or twelve, or fifteen years after he commences to use the catheter. Sooner or later, however, unless relieved by prostatectomy, the patient may have ulceration of the bladder, resulting in death from hemorrhage, or congestion of the kidneys, causing death by uremia; or he may lose his life from pyelitis or perinephritis. In exceptional cases a severe attack of urethral fever, caused by the irritation of the catheter, may cause fatal results.

HYGIENE.

All patients suffering from such forms of hypertrophied prostate as cause obstruction to the passage of urine should have certain cautions impressed upon them. This is an important adjunct to treatment, as the observation of these rules diminishes the danger of disastrous complications. All such patients should be cautioned to wear woolen underclothes both winter and summer, and should avoid, as far as possible, all danger of taking cold. They should be regular and rather moderate in the quantity of fluids consumed, for the occasional drinking of a very unusual quantity of liquid may cause an attack of retention and subsequent atony of the bladder. They should avoid all wines or spirits which have any marked diuretic action. He should carefully avoid all circumstances under which the bladder cannot be emptied at will. He should at proper intervals, unless he is so intelligent that he can be depended upon to do this himself, have his physician examine his urine, about once a month. If the urine is found markedly alkaline or offensive it would indicate the more frequent or careful use of the catheter. He should consider it just as important to have regular times for passing his catheter or otherwise evacuating his bladder, as that he should secure a regular action of the bowels. Above all, he should very systematically and faithfully carry out the directions of his medical attendant as to the use of the catheter, and every time after using that instrument he should immediately cleanse

it, inside and out very thoroughly, and if possible immerse it in some antiseptic solution before using it again. He must not allow motives of economy to induce him to use catheters which have become roughened on their outer surface, nor which have become much swollen, cracked, or friable.

SECTION A.

It is a mistake to suppose that all cases of enlargement of the prostate gland suffer serious inconvenience and require treatment. It is a well established fact that if the enlargement of the gland be mainly posterior and toward the rectum it may not cause any difficulty or annoyance whatever in micturition, although a digital examination per rectum may indicate a very unusual degree of hypertrophy. These cases in which considerable enlargement of the prostate exists posteriorly alone rarely apply to a surgeon for treatment. It is only when the enlarged gland forms a mechanical obstacle to the emptying of the bladder that the patient applies for relief.

When, however, any patient over fifty years of age complains of increased frequency and diminished force in micturition, it is time for treatment to commence. Even if digital rectal examination fail to reveal any hypertrophy or altered contour of the prostate, the case may still be one of prostate retention.

Unfortunately we are obliged to admit that the treatment of enlarged prostate, either medical or surgical, is, with the possible exception of the modern operation of prostatectomy, simply palliative and not curative, but palliative treatment begun sufficiently early is of such immense benefit to the patient in averting disastrous results, giving comfort and prolonging life, that it should not be delayed a day after it is proper to commence it.

In all cases of suspected prostatic hypertrophy the patient should be instructed to empty his bladder, and immediately afterward a catheter should be introduced in order to ascertain whether there is any residuary urine which he has been unable to expel. If there is no retained urine and he is found to be able to wholly empty his bladder without special effort, the case may be considered not to have arrived at the stage requiring treatment. If, on the other hand, residual urine is found, it is

essential that he begin to use the catheter regularly in order to prevent this residual urine remaining in the bladder and undergoing decomposition and causing cystitis. The necessity for the use of the catheter, the degree of frequency of its use, and the condition of the vesical wall, are to be judged from the amount of residual urine found at the examination, and especially upon what a microscopic examination of the urinary sediment reveals. If the microscope show no pus-corpuscles the catheter need not be used as frequently as if the presence of pus-corpuscles indicates that cystitis has already commenced. It is not possible to formulate any rule as to the frequency with which the catheter should be used. If the residual urine amounts only to half an ounce or an ounce, and the microscope shows that it is free from pus, and there be no marked vesical tenesmus, probably once in twenty-four hours would be sufficient.

In commencing mechanical treatment by catheters it is of great importance to impress upon the patient the need of care in keeping his catheter thoroughly clean, and in as nearly as possible an aseptic condition. This is a point which it would be well to impress not only upon patients, but upon physicians, for I believe that physicians are generally negligent upon this point, for they simply, after using a catheter, cleanse it slightly with water and lay it away ready for use next time. I think that it cannot be doubted that lack of care in sterilizing catheters and other instruments introduced into the bladder by physicians, is responsible for setting up cystitis in some patients. It is easy to understand how, after a catheter has been used once on a patient having cystitis and hurriedly and inefficiently cleansed, would become the habitation of great colonies of bacteria, which are ready upon the first opportunity to increase the cystitis if used again upon the same patient, or to initiate the same condition promptly if used upon another patient not suffering from that disease. In my own practice, after using any urethral instrument, or in fact almost any other instrument which a surgeon or physician has need to use, after a thorough washing I at once lay it on one of the trays of the sterilizer, and it is not again used until it has been most thoroughly sterilized ; and to avoid inconvenience in this I have of the more commonly used instruments duplicates, so that there can be no

occasion for using an instrument until it has been thoroughly cleaned by sterilization. Considering the disastrous results of cystitis when once initiated in a patient with prostatic retention, and the difficulty or impossibility of eradicating it, any physician or surgeon should at the outset in every instance explain this point to and impress it upon the patient. We can certainly feel more certain that any patient, in spite of the inconvenience of keeping his catheter aseptic, will faithfully and persistently do so if we explain to him the need of this inconvenient precaution. If expense is not a matter of great importance to him he should have duplicate catheters, so that circumstances may not force him to use the same catheter a second time before being sterilized, or rendered otherwise aseptic. It would seem a great pity to allow a patient in an early stage of the disease, in whom the amount of residual urine is small and the urine perfectly free from products of inflammation, to go unwarned as to the harm of introducing bacteria into his bladder with an unclean catheter every twenty-four hours.

It is a matter of considerable importance that in no case should a patient be instructed to commence the use of the catheter until it is actually necessary for him to do so, for I believe that as patients are almost always careless at times in cleansing their catheters, they are almost certain upon some occasion to introduce bacteria and to set up cystitis. Then, too, the complications which are liable to result in any case from the use of the catheter, frequently gleet and occasionally orchitis, make it additionally important that the use of the instrument be not begun unnecessarily. Even if care be exercised by the patient in keeping his catheter surgically clean, I do not believe the catheter can be prevented in some cases from setting up cystitis. The frequent introduction of even a surgically clean catheter into the urethra is liable to set up an urethritis which degenerates into a gleet, and after this condition has been produced the subsequent introduction of the catheter is pretty certain to push some of the pus-corpuscles from the gleety discharge into the bladder, and I believe this is a frequent and unavoidable cause of cystitis in patients habitually using catheters. When once the patient commences to use the catheter he must expect to continue its use habitually and daily for the rest

of his life. It is therefore important to select for him an instrument with which he cannot do himself harm. If there be no obstacle which causes difficulty in the introduction of the velvet-eyed soft rubber catheter, that should be the instrument chosen. It is important to caution the patient not to allow economy to induce him to use his catheters too long before purchasing new ones. Probably all physicians and surgeons have noticed that after these soft rubber catheters have been used for many weeks they swell so that their size is increased and they become more easily torn or broken. When the catheter has undergone this change it should be thrown aside and a new one purchased. About ten years ago a patient from a neighboring town came to me suffering acutely from retention resulting from enlarged prostate. By appropriate treatment for two or three weeks he was so much relieved that, continuing the use of the catheter, it was no longer necessary for him to continue under my care. I did not see him again for nearly a year, when he came to me, saying that from the extreme end of his catheter he had broken off a little piece about one-third of an inch long, and that he supposed it was left in his bladder. As his prostate was very large, and this little piece was probably in the fundus of the bladder behind the prostate, I was unable to remove it. I again lost sight of him, and he did not call on me again until a year or a year and a half afterward, when he showed symptoms of stone in the bladder. I then performed perineal lithotomy and removed the calculus, in the center of which I found the little piece of rubber which he had broken off from his catheter. This bit of rubber had formed the nucleus for the calculus which had formed around it, and embedded in this calculus it had retained its color and appearance perfectly. The patient made an excellent and complete recovery.

In some cases in which there is narrowing of the prostatic urethra it becomes gradually difficult for the patient to introduce his soft rubber instrument. In such instances Keyes' guide, which consists of a steel wire with a spiral, flexible wire upon the end of it, if introduced into the catheter, will be of great service in introducing it. This guide is extremely useful, but two points of caution are needed in using it. If an old, swollen, friable catheter be used, the end of the Keyes' guide

pressing against the end of the catheter may tear off the distal end and leave it in the bladder, but this danger can be avoided by using only catheters which have not deteriorated through long use. Another point is, to keep the end of the guide so pressed against the end of the catheter that it cannot protrude through the eye of the catheter and thus injure the urethra.

Owing to the fact that the urethra forms the only natural route to the bladder, and that in any case of prostatic hypertrophy there is a liability to narrowing of the prostatic portion, it is extremely important that we keep the urethra as widely open as possible. It is therefore of great importance that the patient use as large catheters as can be easily introduced. The frequent introduction of the catheter, even though it be a soft rubber one, has to some extent the beneficial effect of the introduction of a steel sound in preventing the urethra from contracting. If a patient unfortunately uses unnecessarily a small catheter there is danger that his prostatic urethra will gradually contract down to the size of that catheter, and thus access to the bladder be greatly impeded. As it is always desirable that a patient use a flexible rather than a metallic instrument if possible, and as the soft rubber catheter is unsatisfactory in some cases, especially where the hypertrophy implicates the third lobe of the prostate, the French elbowed catheter, commonly known as Mercier's, will be found of great service. It is flexible throughout its entire length excepting about an inch at its extremity, where it is bent upward at a slight angle in order that, following the roof of the urethra, it may ride over the third lobe of the prostate.

The gum-elastic catheter with a stylet is no longer much used, the soft rubber catheter having superceded it. It may, however, with advantage still be resorted to where the introduction of a catheter is difficult in enlargement of the third or middle lobe. In such a case the stylet should be bent at an ordinary curve for enlarged prostate, but at its extreme end for about three-quarters of an inch bent at a little greater angle. The stylet should then be introduced into the catheter. When the catheter is introduced into the urethra and when its end impinges against the third lobe of the prostate, the stylet should be withdrawn about an inch, the effect of which is to cause the end of the catheter to ride over the enlarged third lobe. The vertebrated catheter

invented by Squire of Elmira, formerly served a useful purpose, but has fallen into disuse, having been superceded by the soft, flexible catheters of rubber.

All catheters for the relief of prostatic retention should be three or four inches longer than the ordinary ones used in other cases. The metallic catheters are more likely to be productive of harm when used by patients than the flexible ones which have been mentioned, but in some cases the flexible ones prove inadequate and we are obliged to provide patients with those made of silver or other metal. As in cases of this kind the curve of the urethra may vary greatly, we must alter the curve of the metallic catheter to fit it. Having by examination found the curve of the individual's urethra we must supply him with a metallic catheter having that curve, and he must be instructed never to use force in introducing it.

For physicians' or surgeons' use, as the instrument is to be handled by one supposed to be careful, I think the metallic instrument is preferable for general use. As a surgeon must use his catheters upon different patients having different urethral curves, and as a silver instrument cannot have its curve altered many times without getting kinked, I have found more satisfactory for my own use catheters made of soft metal. They are less expensive, and they can be bent almost as freely as a piece of lead, so that we can use them upon a greater number of cases and urethral curves than would be possible with a silver instrument.

It is important for physicians and surgeons to remember that when the bladder is very greatly distended there is danger in withdrawing at first and at once all of its contents. If this is done the sudden evacuation of that viscus may cause syncope, as might the sudden evacuation of a large accumulation of ascitic fluid. There is still greater danger that such a sudden and complete evacuation of the bladder would be followed by very serious passive hemorrhage of the wall of the bladder, or by atony of that viscus. The bladder wall if under great distention is more likely to retain its muscular contractility if its contents be evacuated gradually.

In order to prevent the contraction of the prostatic urethra, and to possibly retard to some extent the obstruction by an en-

larged third lobe, Reginald Harrison has proposed that very early, upon the first manifestations of a prostatic obstruction, the habitual use of gum elastic prostatic dilating bougies be commenced. These are regularly introduced by the patient during the entire duration of his disease, and serve to prevent narrowing of the urethra, and being allowed to remain introduced for a short time, protruding into the bladder for a short distance, may retard projection of the third lobe in front of the orifice of the bladder. These prostatic dilators are manufactured by Tiemann & Company. Harrison claims to have used them with marked benefit.

I have thus far made no reference to *medication* for enlarged prostate. Although various remedies have been proposed, yet I believe that they have all proved unreliable, though at one time hypodermic injections of ergot were claimed to have produced marked results in diminishing the size of an hypertrophied prostate. As far as my limited experience went the result was unsatisfactory, and so far as I know no one claims at present that ergot, or any other agent in the materia medica, is capable of diminishing the hypertrophied prostate. For the treatment of certain complications the materia medica furnishes us some aids. If the patient complains of vesical tenesmus, or pain, we may give great comfort by anodyne suppositories containing opium or morphine, with or without belladonna or hyoscyamus, and by starch and laudanum enemata. For the cystitis, which comes on sooner or later in most cases, the most satisfactory medication would consist in a decoction of triticum repens of the strength of about two ounces to a pint. The addition to this of uva ursi is beneficial in some cases, especially if there be much pus. Buchu and other diuretics I consider of less importance. Alkalies are only useful in the earlier stages of a case of enlarged prostate, when the urine may be unduly acid, for when the disease is further advanced the urine ceases to be acid and becomes ammoniacal, and alkalies are no longer indicated. I consider citrate of potash in doses of from fifteen to thirty or forty grains the most satisfactory agent for diminishing the acidity of the urine. It is important in administering any alkali for this purpose that it be given about an hour before meals, or at bedtime. If given at such times its action upon the urine is more marked.

Cystitis, especially when severe, is most successfully and satisfactorily treated by washing out the bladder with medicated solutions. This can be very easily and efficiently done. For washing out the bladder a rubber bag holding four or six ounces, similar to the Politzer's bag used for inflating the eustachian tube, is much preferable to the fountain, or any other syringe. With a fountain syringe we cannot so accurately estimate the quantity which is injected. This is an important point, because it is unwise to inject more than two, or at the most three, ounces at an injection, and it should be injected with great gentleness. Generally in washing out the bladder the physician and patient make the mistake of injecting as much as the bladder will hold, allowing the fluid to flow in until the patient complains of discomfort, showing that the bladder is considerably distended. This is an error. It is important that only enough should be injected to come in contact with all parts of the bladder wall without distending it, and when the bladder is collapsed, two, or at the most three, ounces are sufficient. The Davidson's and other syringes are objectionable, because with them the fluid is thrown in with too much impulse, and this irritates the bladder, but with the bag like Politzer's, knowing the capacity of the bag, how much we have in it, it is possible to judge pretty accurately how much we inject, and as the fluid is forced out of the bag by the pressure of the hand the injection is introduced into the bladder with all possible gentleness, according to the pressure. The washing is therefore free from all irritation to the bladder, and causes no discomfort to the patient.

The bag is first filled with the solution to be used at a temperature of one hundred or one hundred and two degrees. A double current stop-cock is also useful, but not essential. The patient's catheter is then introduced into the bladder and the urine is entirely drawn off; the nozzle of the bag containing the injection is then connected by a piece of tubing with one end of the double current stop-cock, all air having been carefully expelled from the bag, and the other end of the stop-cock is connected with the catheter. A piece of tubing two or three feet long extends from the outlet of the double current stop-cock into some convenient vessel on the floor. The gentle pressure of the hand upon the bag causes about two ounces of the solution

to flow into the bladder. It is allowed to remain there two or three minutes, and then without disconnecting any part of the apparatus, and by a simple turn of the stop-cock, the fluid flows out of the bladder, and without re-entering the bag flows off through the waste-pipe to the vessel. Another turn of the stop-cock causes an additional two ounces to flow from the bag into the bladder, and the same procedure is repeated. Thus, by this method, the washing of the bladder is completed without disconnecting any part of the apparatus, without the need of any assistant, and without the possibility of any air being forced into the bladder.

I believe it was Sir Henry Thompson who remarked that in washing out the bladder it was of more importance how it was done than what solution was used, and that it was important that no more than two ounces be injected at a time, that quantity being injected two or three times at each sitting.

By no other plan can cystitis be so efficiently treated. By it the last drops of urine are drained away, with the pus which they contain ; the bladder is soothed by the solution which we use, and the suppuration and decomposition are retarded by the antiseptics which we introduce in the solution. If the cystitis is severe the washing should be done once or twice a day during the remainder of the patient's life. The solution which I have most frequently used is that suggested by Sir Henry Thompson.

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Sodii boratis - 31.
Aquæ
Glycerînî ää 60.
Misce. Sig. 15C.g. to 120C.g. of injection.

Probably no better combination of remedies could be suggested than the above.

In those cases of retention where it is found impossible to introduce the catheter, the old operations of forced catheterization and puncture of the bladder through the rectum should be considered as obsolete and not resorted to. When it is found that the catheter cannot be introduced through the urethra, after the bladder has become dangerously distended the relief should be afforded by puncturing the bladder above the pubes with the

aspirator. This is a comparatively harmless procedure if properly done, and can be repeated a number of times if necessary, until the catheter can finally be introduced. I remember seeing in one work on surgery directions given that in aspirating the bladder the needle should be introduced not only once above the pubes, but in a direction downward and backward. I am sure that those directions would, if closely followed, lead to disappointment, for if the needle be introduced not only close above the pubes but introduced according to those directions downward as well as backward, it would, as I have known happen, be introduced into the cellular tissue between the symphysis and the neck of the bladder, and no urine be obtained. While the needle should always be introduced close above the symphysis, yet if the bladder be much distended it is more satisfactory to introduce it directly backward.

The tying of the catheter in the urethra is objectionable, because it is liable to cause great irritation, and is to be avoided if possible, although it might be permissible in some instances.

Sir Henry Thompson has advocated in those cases in which the introduction of the catheter was difficult or impossible, an operation for establishing a permanent opening above the pubis, as in the high operation for stone, and by this means patients have lived comfortably, passing all their urine in that way above the pubes, for considerable periods of time. More recently Thompson has recommended that the opening be made through the perineum into the membranous urethra, through which a tube may be introduced into the bladder.

The gleet which frequently results from the habitual use of the catheter rarely requires treatment, for it generally subsides without treatment after the urethra becomes toughened by the use of the catheter. It is simply caused by the mechanical irritation of the instrument.

Some patients using the catheter habitually for enlarged prostate suffer severely from one or more attacks of orchitis. It is simply a result of the unavoidable irritation of the instrument. It is less likely to occur if the patient is very careful to see that his catheters are in good condition and free from all roughness and well lubricated, and there is less danger of it if the patient wears a suspensory bandage, but it will sometimes

occur in spite of all care. I have seen a number of instances in which it went on very acutely to suppuration. The treatment would be the same as for orchitis from other causes, namely, rest in a recumbent position and the application of heat and moisture, which might be by the use of tobacco poultices.

I was first induced to try these applications in many cases by noticing with what unusual emphasis Prof. E. L. Keyes of New York urged their use as the best treatment known to him. He states that they will narcotize a testicle and render it painless in a few hours. He devotes about one-half of a page of his book to them, and adds in foot-note: "The tobacco poultice was subjected to the test of a thorough trial through many years at the New York Hospital. It proved itself more serviceable than any other agent."

It is not surprising that after cystitis has continued for a considerable time there should be at various points ulceration through the mucous coat, causing hemorrhage from the bladder. This is not an uncommon symptom in advanced stages of the disease. The occurrence of hemorrhage is a serious symptom, because, although one attack may be checked, it is liable to continue to recur subsequently. The most essential point in treating hemorrhage is absolute rest in a recumbent position. If the urine is very acid it is desirable to render it alkaline by citrate of potash. The application of bags of ice to the perineum and above the pubes, as has been often recommended, is, I believe, a useless procedure, because it cannot be possible by them to affect the temperature or circulation of the bladder. If the ice were introduced into the rectum it might be slightly more effectual. Lead with opium, ergot by the mouth or subcutaneously, gallic acid and aromatic sulphuric acid, are probably somewhat beneficial, but their effects are frequently disappointing. I believe that of drugs gallic acid and opium are the most efficient. The free administration of opium by the mouth or rectum is especially advantageous, because it relieves pain and gives rest to the bladder wall. During an attack of hemorrhage it is desirable, if possible, to avoid the use of instruments. It is seldom, if ever, advisable to inject styptics into the bladder for the control of hemorrhage. They cause irritation and are likely to do more harm than good. If the bladder

become distended with a large clot of blood, it is advisable to let it alone and not to endeavor by instruments to break it up or remove it, for such an attempt will almost certainly result in causing fresh hemorrhage. If no attempt is made to remove the clot the action of the urine upon it will probably cause it to disintegrate. It was formerly advised to inject pepsin solutions into the bladder, for the purpose of dissolving the clot. I have resorted to that plan of treatment to a very limited extent, but cannot say that I found any marked benefit from it, and from the fact that, so far as I know, that plan is not at present urged as formerly, I should infer that others also had found it inefficient. If, however, the patient with the large clot in his bladder be one who has previously suffered from atony of that viscus, and is thus unable to expel entirely any of the contents of the bladder, it is possible that, having lost the muscular contractility of that viscus, it may be necessary to aid him in getting rid of the clot. If in such a case it was decided that the patient needed to have the clot removed, it would seem advisable to endeavor to digest it for a few hours with the pepsin solution, and then withdraw it by suction by the evacuating apparatus used in litholapaxy; or, if such an apparatus be not at hand, through a large catheter to which is attached any suction apparatus, as a large syringe or stomach-pump. No such use of instruments should, I believe, be made, unless the patient is suffering from vesical atony. In general, then, it is best to let blood-clots in the bladder alone, without interference.

Having had occasion myself to open the bladder, above the pubes, as in suprapubic lithotomy or cystotomy, four or five times, and having noted the ease with which all parts of the bladder, even when the prostate is greatly enlarged, can be reached in this way, I should be tempted, in case of vesical hematuria proving obstinate, to perform suprapubic cystotomy, and thus gain free access to the bladder, and through the wound employ copious irrigation of the bladder with very hot water, or employ styptics if the hot water failed to check the hemorrhage.

I believe that in future this will become a plan of treatment much to be relied upon, and that the indications to perform suprapubic cystotomy, to gain access directly to the point of

hemorrhage, will be considered as plainly indicated as when the hemorrhage occurs from the bottom of deep wounds, or secondary hemorrhage occurs within amputation stumps, we consider it our duty to open the wound or stump thoroughly until we can see and deal directly with the bleeding vessels.

From the measures which we have thus far mentioned we expect no cure of the disease, but only to palliate symptoms, make the patient as comfortable as possible, and prolong his life. In obstinate cases of prostatic retention perineal cystotomy has occasionally for many years been performed in order to afford drainage of the bladder through the perineum. Such an operation relieved the distressing symptoms as long as the urinary fistula was kept open, but such a fistula showed a strong tendency to close, and only persistent use of instruments could keep it open. The relief afforded by that operation did not furnish a permanent cure, but simply relieved while the fistula was prevented from closing.

Up to the time that McGill of Leeds published in the *London Lancet* for February 4th, 1888, an account of his method for performing prostatectomy, no reliable plan of really removing the obstruction caused by an enlarged prostate had been suggested.

It is true that some cases had been reported in which, during the performance of perineal lithotomy, portions of the obstructing prostate had been torn away, more by accident than design, and thus the obstruction being removed the patient was thereafter better able to evacuate his bladder.

About eight or ten years ago I performed lithotomy upon an old man suffering from enlarged prostate, and who had such a narrowing of the prostatic urethra that he had had very great difficulty even in introducing his catheter. Although I performed the operation only for the purpose of removing the stone from his bladder, I found to my surprise after his recovery that the free incision of his prostate, to allow of the extraction of the stone, had given him such permanent relief from his retention of urine, that he told me months afterward that he had been able to almost, if not entirely, dispense with the use of his catheter, although he had begun its use and used it frequently before his calculus began to form.

McGill calls attention to the fact that the severity of the symptoms in prostatic hypertrophy has little or no relation to the apparent size of the gland as shown by examination through the rectum, and states that only about fifty per cent. of hypertrophied prostates cause marked obstruction to the urine. The obstructive symptoms depend solely upon the extent of the intravesical growth, and he describes the following kinds of intravesical hypertrophies:

"(1) A projecting middle lobe pedunculated or sessile; (2) A middle lobe with lateral lobes forming three distinct projections; (3) The lateral lobes alone; (4) A pedunculated growth springing from a lateral lobe; (5) A uniform circular projection surrounding the internal orifice of the urethra like a collar."

In McGill's operation of prostatectomy for the removal of the intravesical obstructing portions of the prostate, which consists in opening the bladder as in suprapubic lithotomy, he calls attention to the fact that when the prostate is abnormally hard the water injected into the rectal colpeurynter should be smaller than is usually recommended, usually about six or ten ounces. The bladder should be previously irrigated until the antiseptic solution returns perfectly clear, and the quantity left in the bladder should vary from ten to twenty ounces, the amount to be injected into the bladder to be judged by the hand placed over the hypogastrium, showing when the distention is sufficient. It is advisable to leave the catheter in the bladder until the bladder is open, as it affords a guide which facilitates the operation.

The bladder having been opened through the linea alba, each lip of the wound in the bladder wall is to be held open by a silk thread passed through it and held by an assistant. He states that a pedunculated middle lobe can be removed easily, its pedicle being divided with curved scissors. A sessile middle lobe can be removed in the same manner, the scissors being assisted by tearing with the forceps. The collar enlargement is removed with more difficulty. It should be divided longitudinally, one blade of the scissors being inserted into the urethral opening and dividing the portion above, and then with the other blade in the same opening dividing the portion below. The re-

maining projecting portion of the prostate is to be removed by scissors curved on the flat, or enucleated with the tip of the forefinger. No portion of the projecting valve should be allowed to remain. As far as possible the prostate should be removed by enucleation with the finger rather than by cutting. The mucous membrane over the projecting portion is snipped through with scissors and the operation completed with the finger and forceps. By so doing severe hemorrhage is prevented. Hemorrhage after the operation is to be arrested by irrigation with water as hot as can be borne by the hand. Upon the completion of the operation it is essential to see that the urethra is patent, and to pass the forefinger into it as far as the first joint. A large tube is to be inserted into the bladder, and the wound united above the tube by a deep and superficial row of sutures. The tube should be removed after forty-eight hours. The after treatment includes keeping the parts clean and washing the bladder and wound with boracic acid solution.

McGill's tables show that by this method portions of the prostate equal in size to a bean, a filbert, a large walnut, and a cricket ball have been removed. In several instances masses weighing two and three ounces have been removed. Statistics of this operation show twenty-nine successes, twelve failures and twelve deaths.

While the above operation of McGill seems to be preferable, other operations have been suggested. It has been proposed that the incision be made through the perineum, as in medium lithotomy, and the projecting growth of the prostate be torn away with the finger or with special forceps, or removed with the curette or sharp spoon. This operation has proved unsatisfactory, because the finger will sometimes fail to reach the portion of the prostate to be removed, and it is sometimes not possible to remove it even by instruments through the perineum. Prostatectomy, therefore, by perineal incision, is likely to prove in any case uncertain and unsatisfactory.

The method advocated by Dr. Bellfield of combining the perineal and suprapubic incisions might prove especially advantageous if there was any obstruction also in the prostatic urethra.

Electrolosis of the enlarged prostate was proposed by Dr.

Caspar in 1888, but it is doubtful if it would prove efficient. Removal of the obstructing portion of the prostate by means of galvanocautery was advocated at the Berlin Congress by Prof. Bottini, who recorded five deaths in sixty cases.

Tobin has suggested the removal of intravesical outgrowths of the prostate by means of an ecraseur introduced per urethram, the loop of wire being slipped over the projecting lobe and held in position by the forefinger introduced into the bladder through a suprapubic opening. This operation might prove useful in a small number of cases in which the obstruction was confined to the middle lobe.

Dr. Weir of New York states that, in his judgment, removal of prostatic obstructions will afford the greatest success in those in whom the interference with urination has lasted but a comparatively few years. In other words, where the secondary changes in the kidney have not advanced to a very serious exteut, and he states that the scissors in the removal of prostatic outgrowths are unsatisfactory, and he proposes to use an amygdalotome in the next case of the kind.

APPENDICITIS FROM THE POINT OF VIEW OF THE PHYSICIAN.

BY GUSTAVUS ELIOT, A.M., M.D., NEW HAVEN, CONN.

Recent years have witnessed great advances in our knowledge of inflammatory affections in the neighborhood of the caecum. The vermiform appendix now occupies a position of great pathological interest and importance. The proper management of inflammation of this organ is a subject in regard to which eminent authorities still hold very dissimilar opinions. Every practitioner is likely at any time—it may be to-morrow, or next week, or next year—to meet a case of appendicitis, and to be confronted with the question: What does modern science teach should be done for the patient?

The responsibility of the practitioner in these cases can scarcely be overestimated, because the danger of a fatal result is so great, and because the life of the patient so often depends upon his decision. The intrinsic tendency to recovery is slight.

In post-mortem examinations it is possible to distinguish cases in which the disease is plainly due to the presence of a foreign body, and those in which it is impossible to find any such cause. Cases in which the inflammation is not dependent upon a foreign body, and which are distinguished as catarrhal, are the ones in which the symptoms sometimes subside in two or three days. Frequently, however, by the death of tissue, they become closely allied, as regards their ultimate results, to cases of the first class, for the dead tissue is practically a foreign body.

The results of appendicitis are various. Sometimes the inflammation quickly undergoes resolution, the symptoms subside, and the patient gets well without appreciating the danger through which he has passed. In other cases the peritoneal

cavity early becomes infected, and general peritonitis and, as a rule, death, quickly supervene. In still other cases a chronic abscess forms. This may burst and cause general peritonitis and death; or it may undergo spontaneous evacuation, and result in death or recovery; or it may be opened by the surgeon, and terminate in death or recovery.

From an etiological, as well as from a pathological point of view, it is, therefore, easy to see that the patient with appendicitis has many chances of his disease terminating fatally. It is the obvious duty of the physician to remove his patient as far as possible from the chances of a fatal result.

Before pus has formed, before ulceration has perforated the coats of the appendix, and before the appendix has become gangrenous and sloughed, the danger to the patient is a prospective one. During this stage of the malady the physician must adopt a course of active medical treatment. Morphine should be administered in large doses subcutaneously, and should be repeated at short intervals until the pain is entirely relieved. A mustard plaster should be applied until the skin is reddened, and this should be followed by hot flaxseed poultices. A saline cathartic — sulphate of magnesia, in dram doses, is the best — should be repeated every hour or two, until copious watery movements from the bowels occur. These measures tend to relieve congestion of the intestinal mucous membrane, and to modify the inflammatory action. If the case is one of so-called catarrhal appendicitis, in which there is no foreign body and no abnormal concretion giving rise to the inflammatory process, the inflammation may undergo speedy resolution and the patient quickly become convalescent. But, on the other hand, resolution may not ensue, and the patient may not get well. If, however, the trouble is caused by a foreign body or an intestinal concretion, the measures above indicated will do very little except to keep the patient quiet while the doctor is thinking what to do next.

Cases of this kind, and cases of catarrhal appendicitis, which have not undergone resolution, may be classed together. They are of great gravity and importance. Unfortunately during the first stage of the disease it is generally impossible to tell just what the cause of the trouble is. It is, therefore, playing a

game in which the odds are strongly against both the patient and the physician, to continue indefinitely the treatment which I have outlined. The most important point is to decide how long this treatment may be safely continued.

Statistics will in time doubtless settle the question with reasonable certainty. They have not done so yet. It is, however, known that in many cases the dangerous results, suppuration, sloughing and perforation, occur very quickly, sometimes as early as the third or fourth day. The risks of temporizing with a suppurating, gangrenous or perforated appendix are so great that no man with any conscience ought to hesitate for a moment to advise its removal. The sun has nearly set upon the day in which the surgeon boasts with pride, as of an important operation, of having incised a large perityphlitic abscess. The day will soon dawn—it has already dawned for some—on which such a performance will be mentioned only to illustrate the carelessness, the stupidity, or the mistake of the man who watched the abscess develop.

The question then is: When shall the diseased appendix be removed? It has been the fashion for the surgeon to say: You must call upon me to tell you when the operation should be done. This is pernicious teaching. It is time that the physician should turn about and say to the surgeon: When I want you, I will send for you. When I send for you, bring your ether, cone and knife.

As I have said, statistics have not yet told us just when to operate. But the daily papers have told, to him who reads between the lines, that the patients die when the operation is delayed. It is certain that the fourth day is, in some cases, too late to operate and save the patient's life. There is very little satisfaction in operating and seeing the patient die. The third day is, to many of these cases, a critical one.

To return to the former question: How long may medical treatment be continued? My reply is: For not more than twenty-four hours, and not later than forty-eight hours from the commencement of the disease, unless distinct evidence of positive and continuous improvement is observed. If it is not observed, call upon a surgeon to operate, and call upon one who

will operate. In this way alone will you do your duty by your patient.

I doubt not that some one, who desires to pose ostentatiously as a conservative, will jump up when I sit down, and tell you that I am yonng and inexperienced. Concerning these points I have nothing to say. What I wish to impress upon yon is that the experience of the profession during the last few years teaches that an inflamed appendix should be removed after forty-eight hours, if marked symptoms of resolution of the inflammation have not appeared by that time. To be sure, all patients who are not operated upon will not die; but many will die if the operation is postponed much later than the period mentioned. If yon think that I am wrong, tell me: Have you ever heard of anyone, who removed an inflamed appendix, who was sorry because he had not postponed the operation until a later day?

You know that many fathers and mothers have wept bitterly becanse the surgeon did not operate nntil the disease had passed beyond the range of his resonrces. Now, my dear brother physician, do not try to shirk your own individual duty and responsibility by calling in a surgeon and throwing the responsibility upon him, and if he sacrifices the patient's life, do not sit stroking your beard with a look of sanctimonious resignation upon your face, while you explain that the eminent authority who was called in consnltation advised postponing the operation, or against operating at all. Call a man who will operate at once, and who will operate well, and call him early, before the case gets complicated.

Do I hear some one say that the operation increases the danger of the patient's dying? Let me ask again: How many of yon have heard of any patients who have died from the disease or the operation when the appendix was removed before suppuration, gangrene, or perforation had occurred? I am sure that such cases are exceptional. I advise you to adopt a course which brings safety to your patient, which removes him from very great danger to his life, or at least from a prolonged and dangerous illness, by a surgical procedure which increases very little his liability to death.

This is gennine conservative surgery. I speak not as a sur-

geon who is anxious to use his knife at every possible opportunity, but as a physician who recognizes the duty of deciding what is best for his patient, and of making every effort to have the right thing done at the right time.

One suggestion has been made in this connection which is deserving of respectful consideration. Some have advised that temporizing measures should be employed in the hope that the acute symptoms may subside, and that after they have disappeared the operation should be performed. The danger of the operation is less, they claim, after active inflammation has passed away than while it is still present.

There are several objections to following this plan. In the first place, it is very questionable if it is wise to operate upon a patient after his first attack, if all symptoms of the trouble have passed away, for it is well recognized that many persons suffer from a single attack and have no recurrence. Although the danger from the operation is not very great, yet it is sufficiently great to lead us to advise anyone with considerable hesitation to submit to the operation, when he is in apparently good health. A better plan is, after the patient has recovered from the primary attack, to warn him of the danger of a subsequent attack, and, if the second attack ever occurs, to advise immediate early operation.

Another objection to the plan of waiting for the subsidence of the acute symptoms is, that it is impossible to distinguish cases of catarrhal appendicitis, which may undergo resolution, from cases due to the presence of a foreign body, which rarely undergo resolution. Most cases of the latter variety, and many of the former, do not undergo resolution, but speedily getting worse, pass beyond the first stage and become complicated by suppuration, perforation, or gangrene. These complications are very serious. They increase very greatly the difficulty and danger of operation, and very often render a fatal result inevitable.

For these reasons there seems no occasion to question the wisdom of the rule already laid down: That the appendix should be removed within forty-eight hours of the commencement of inflammation of the organ, unless marked and continu-

ous improvement is observed after twenty-four hours of medical treatment.

The risk of a fatal result being hastened by an operation, carefully performed, while the case is still uncomplicated, is very slight compared with the increased danger of death, if the operation is delayed until an abscess has formed, or the tissues have sloughed, or the ulceration has resulted in perforation.

THE PATHOLOGY OF ASTHMA.

CHARLES J. FOOT, B.A., M.D., NEW HAVEN.

The pathology of asthma is at present mostly a matter of pure theory and as this is the subject upon which I am here asked to report, I can state little that is of any practical value and must state much that is uninteresting.

By a study of the pathology of asthma, if we cannot learn what it is, we can at least learn partially what it is not and so perhaps be delivered from a few misconceptions regarding it.

Before entering the undiscovered country of theories regarding asthma, I propose to state a few well known facts regarding it, which form the basis of certain theories of the mechanism of an asthmatic paroxysm.

First—in a paroxysm of asthma the chest is distended or expanded, so that the patient cannot expire. The abdomen seems at rest and there seems to be no movement of the diaphragm which usually presses the abdominal viscera down in respiration and draws them up in expiration.

That the chest not only appears to be distended with air but actually is distended, is proved by the emphysema and distended air vesicles which always result from long continued asthma.

Second—another thing equally plain is that there are abundant sonorous and sibilant râles heard in the chest during a paroxysm of asthma. How they are produced I will not now stop to discuss. They are invariably present but are not pathognomonic, being found as well in bronchitis without asthma. The paroxysmal distension of the chest is however pathognomic of asthma, and therefore worthy of more consideration in discussing the pathology of asthma.

In a few words then, the pathology of asthma consists in explaining the paroxysmal distension of the chest, the expiratory dyspnea and the sonorous and sibilant râles.

In asthma we cannot say that there is no obstruction to the entrance of air into the lungs but we certainly can say that there is some interference with the exit of air from the lungs. It is very evident that the patient cannot expire.

Inability to expire may arise from three causes.

First—obstruction to the exit of air from the chest. This obstruction may be in the bronchi or bronchioles.

Second—inability to expire may be due to paralysis of the expiratory forces which normally force the air out of the lungs in expiration.

Third—inability to expire may be due to a spasm of the respiratory muscles, so that the chest is held in the position of full inspiration.

The first theory, namely, the obstructive theory, is suggested by the presence of the dry râles in the chest. The obstruction might be explained by swelling of the mucous membrane, by a vasomotor paralysis so that the blood-vessels of the bronchioles are greatly distended and so obstruct, or the obstruction might be due to a tenacious secretion which later in the paroxysm becomes more liquid and is expectorated However caused, the obstructive theory, it seems to me, is insufficient to explain the expiratory dyspnea. We apparently often have the same or similar obstruction in bronchitis and yet do not have asthma. Furthermore any obstruction in the bronchi or bronchioles would naturally obstruct inspiration as well as expiration and would produce the respiratory symptoms of a capillary bronchitis and perhaps some of the pathological lesions found in this disease as well. To overcome these objections to the obstructive theory which I have mentioned and to explain how we can have obstruction only on expiration, two other theories have been proposed. This obstruction which does not obstruct on inspiration but does obstruct on expiration may be explained. First, by the presence of swollen folds of mucous membrane in the bronchi which open inwardly but not outwardly and thus act like the valves of the heart or of the veins, allowing the current of air to pass in one direction only.

The second theory to explain the obstruction on expiration only is that there is a spasm of the muscular bands in the bronchi or bronchioles acting like a sphincter muscle which close

the bronchi during expiration, and which are relaxed during inspiration. This action certainly has an analogue in the normal vocal cords, which open during inspiration but nearly close in expiration. These two theories however, it must be remembered, are theories proposed to explain theories, or are based on the assumption that asthma is caused by an obstruction in the bronchi. The second theory proposed to explain the distension of the chest is that there is a paralysis of the expiratory forces so that the patient cannot expire. This explanation cannot be of much account. Expiration is normally accomplished by the elasticity of the lungs and sternum and by the action of the intercostal and abdominal muscles.

The lungs have sufficient elasticity to drive air out of them when they are blown up, as is easily proved by post-mortem. Anything which would paralyze or destroy this elasticity, such as emphysema, would certainly impair the patient's ability to expire. But any change of this sort would be permanent and consequently cause a more or less permanent dyspnea and would not explain the paroxysmal character of asthma. The same might be said of a diminution of the elasticity of the ribs or sternum, which tend to spring back into place after distension. Ossification of the cartilages of the ribs and sternum would undoubtedly diminish expiratory power and so aggravate the paroxysm of dyspnea but would be insufficient to account for it. The expiratory muscles (i. e. intercostal and abdominal muscles) apparently play a subordinate part in expiration, and paralysis of them would probably be of small account in producing a paroxysm of asthma.

The third theory proposed to explain the distended chest is that of a spasm of the inspiratory muscles, so that the chest is held in the act of inspiration and not permitted to expire. This theory is suggested by the apparent absence of movement of the abdominal viscera during a paroxysm of asthma, showing that the diaphragm does not relax on expiration. It is objected to this theory that we have tetanic spasms of the diaphragm in tetanus but that the resulting character of respiration is very different. There are, however, many other inspiratory muscles besides the diaphragm and it is the combined effect of these that produces inspiration. It is quite likely that in tetanus the

same group of respiratory muscles is not affected as in asthma and so that the paroxysm is different from an asthmatic one.

To me the theory with least objections, to explain the paroxysmal expiratory dyspnea and the râles, is a combination of two of the above theories; in fact, all three theories have a grain of truth in them.

There is probably some obstruction in the bronchial tubes, both to respiration as well as expiration, producing the râles; but the paroxysmal expiratory dyspnea is probably due to a spasm of the inspiratory muscles, noticeably the diaphragm.

Admitting, then, for the sake of argument, that this is the mechanism of a paroxysm of asthma, we must next go still further from fact to more abstruse theories, and consider what causes the spasm of the inspiratory muscles, or the spasm of the bronchial muscles, if we hold that theory, and the bronchial obstructions.

A muscular spasm or muscular contraction in its completeness requires a muscle, nerves, a nerve center and a stimulus. Whether a muscular contraction results from a given stimulus depends upon the irritability of the nerve center. Normally, peripheral stimuli do not result in a paroxysm of asthma. Thus a person in perfect health may be exposed to certain conditions which invariably produce asthma in persons of an asthmatic tendency without becoming asthmatic. Likewise many people have nasal obstruction without having asthma. Women have retroverted uteri without having asthma. We see, therefore, that not only is an external stimulus necessary to a paroxysm of asthma, but also an abnormal irritability of the nervous system is needed, which responds to stimuli that would not affect a person with a normal nervous system.

Consequently we have, then, two causes of asthma to consider: First, irritability of the nervous system; Second, stimuli applied to the periphery.

First, then, I propose to consider an increased irritability of the nervous system as a cause of asthma. This increased irritability probably does not affect the nervous system as a whole, but affects only the medulla. The reasons for locating this increased irritability in the medulla is that an asthmatic paroxysm is a complex act, involving not only the bronchi but diverse sets

of inspiratory muscles which are not connected with the same blood-supply. To explain such a paroxysm it is necessary to trace the new supply to a common center, and so to refer the irritability to the medulla. If the irritability were located in a muscle or nerve the muscular spasm would affect only a few closely related muscles.

The idea that a functional change in the medulla, increasing its irritability, is one of the causes of asthma, is after all simply an hypothesis, furnishing perhaps a reasonable and consistent explanation of the paroxysms of asthma.

Inasmuch as it is a functional change there are no pathological lesions left behind. There is further evidence that there is functional change in the medulla in asthma. Experiments on animals show us that changes in the circulation of the medulla markedly affect the respiratory system, producing Cheyne Stokes' respiration; and furthermore, that cutting off the blood-supply of the medulla results in arrest of respiration on inspiration, or an inspiratory asphyxia. This is nearly what we have in asthma. Furthermore, asthma is especially apt to occur in neurotic families and in childhood, conditions in which we would expect an especial irritability of the nervous system.

Besides these arguments, it seems to me that in many cases the paroxysmal character of asthma is best explained by a change in the quantity or quality of the blood in the medulla.

The paroxysmal character of asthma may depend either on an increased intensity of peripheral stimuli or on a sudden increase of the irritability of the medulla so that it responds to stimuli which would not otherwise affect it.

A person who is thrown into a paroxysm of asthma by a slight odor or by a slight atmospheric change must certainly have increased nerve irritability, yet the paroxysm was determined by the stimulus, the odor, or change in the atmosphere. On the other hand, where the stimuli are apparently constant as in nasal obstruction and we can find no other varying external stimuli, such as odor or atmospheric changes at the time of the paroxysm, we must refer the paroxysm to an increased irritability of the medulla so that it responds to stimuli which would not ordinarily affect it. This sudden increased irritability is best

explained by a change in the quantity or quality of the blood sent to the medulla.

If we admit that changes in the quantity of the blood sent to the medulla explain asthma, some of the paroxysms of asthma in cardiac disease (aside from those produced by edema of the lungs) may be explained by a medullary anemia or hyperemia. If we admit that changes in the quality of the blood sent to the medulla cause asthma we can easily see that an attack of indigestion or a loaded stomach may furnish such poisonous products as when taken up by the circulation and carried to the medulla may cause an attack of asthma. Acetonemic and uremic asthma may be explained in this way.

Finally I desire to consider external stimuli as causes of asthma, or to answer the question, Where do the nerve impulses arise which set going a paroxysm of asthma in a person with an irritable nervous system.

The sources of these impulses are mostly peripheral. There is, however, a kind of asthma described in text-books on nervous diseases called asthma nervosa which is a purely nervous disease and there the nerve impulse causing the paroxysm apparently arises in the medulla; but this form of asthma must be rare as well as hard to diagnosticate since it is not always easy to find the peripheral source of stimulation, even though one may exist.

Other causes of nerve impulses coming from the periphery are the nose, the uterus, the bronchial glands, etc.

The nerve supply of the nose has a close connection anatomically with the respiratory center in the medulla. Thus we can readily see how an irritation of the nasal mucous membrane should affect respiration, since the fifth nerve supplies the mucous membrane in the anterior part of the nasal fossæ, and arises from the pores not very far from the medulla. One would expect however that pharyngeal disease, such as enlargement of the third tonsil, would be more apt to produce asthma than obstruction in the anterior portions of the nasal fossæ since the nerve supply of the third mucous membrane of the posterior nares and pharynx is the glossopharyngeal which arises near the respiratory center in the medulla at the same point with the pneumogastric and spinal accessory. Whether cauterization and treatment of posterior nares and pharynx more commonly

relieves asthma than anterior, I leave to later readers to decide.

Though nasal obstruction is a frequent source of asthma, the frequency of this cause is probably overestimated because some cases of asthma are cured by the general practitioner without resort to the specialist and the cases that the general practitioner cures are as a rule not those due to nasal obstruction.

The nervous system as an element in the etiology of asthma must be remembered when treating it, since many cases of nasal obstruction never have asthma because their nervous systems are normal.

Much the same statement may be made with regard to a displaced uterus as a cause of asthma; if this causes asthma, it is certainly an indication that the nervous system of the patient requires treatment.

The uterus has no very close anatomical connection with the medulla or respiratory apparatus. Barnes thinks that a certain relation exists between menstruation and respiration. He thinks that respiration is less active during menstruation as there is less blood to ærate, and that respiration is more active at the menopause, since with the cessation of menstruation he finds the amount of CO_2 expired increased. It is difficult to see exactly how this could bear any relation to asthma. It is true that cases are reported in women where the asthma always came on at pregnancy and ceased at interpregnant periods. But on the other hand cases are also reported of asthmatic women who are entirely free from asthma during pregnancy.

Englemann has reported several cases of asthma apparently due to uterine disease. In one of these cases where the uterus was retroflexed the introduction of a pessary cured the asthma, and if the pessary was removed the asthma returned. He also reports one case of ovariotomy for asthma resulting in death. His confidence in the idea that respiration and menstruation were closely connected was such that he considered himself justified in bringing about a cessation of menstruation by Battey's operation for the relief of asthma.

It seems, then, that in spite of *a priori* considerations to the contrary, clinically there does seem to be some connection of asthma with uterine disease.

The enlargement of the bronchial glands has been invoked to

explain asthma as well as whooping cough. It is an attractive theory to those who believe in the efficacy of potassium iodide to reduce enlarged scrofulous and other glands, since, if we believe this, it furnishes us with an explanation of the action of potassium iodide in cases of asthma.

The association of asthma with skin diseases seems fairly well established clinically, more especially in childhood. The skin diseases most often associated with asthma are eczema and uricaria. Of late there seems to be a tendency to regard certain forms of eczema in childhood as having a neurotic origin, and thus attribute both the asthma and eczema to some influence acting on the nervous system.

Certain other things have been suggested, such as Leyden's crystals, as initiating nerve impulses which act on an over sensitive medulla and so cause asthma. But it is now generally thought that neither these nor Curschman's spirals, nor the eosinophilous cells have any diagnostic or etiological significance. There are many kinds of asthma, as may be seen by reference to Foster's dictionary; too many, in fact, to begin to discuss.

Some may be grouped as being caused by a poison in the system, such as gouty asthma; asthma saturninum due to lead poisoning, and bilious asthma. Others may be referred to a neurotic temperament, such as hysterical and hypochondriacal asthma. Other kinds are asthma verminosa, due to intestinal entozoa.

These different kinds of asthma simply show that we cannot find the sole cause of asthma in the nose nor in the uterus, nor in the stomach, nor in gout, but only that asthma is simply a symptom of an irritable nervous system responding to a stimulus which would not affect it if it were in a normal condition. Since asthma is a symptom we should never be content to make a diagnosis simply of bronchial asthma, but should seek if possible to determine the cause. I think the heart and kidneys should be objects of especial attention, and that all possibility of these being one of the causes of asthma should be excluded. As our knowledge increases the simple diagnosis of bronchial asthma will be made less and less.

The misunderstood bacterium has been sought, as usual, to

explain this disease. One wonders whether the medical world will ever grasp the principles enunciated by Koch who exemplified them in his classical work on tuberculosis. According to Koch, to prove that a disease is due to a bacterium we must isolate the bacterium, cultivate it outside the body, always find it in patients suffering from the disease, inject pure cultures into animals and produce the disease. These propositions Koch literally carried out in his work on tuberculosis. It is needless to say that so far as I can find out not even one of these propositions in regard to asthma has been complied with, but that one observer found some streptococci in the sputum of a case of asthma and immediately developed a theory of spreading edema, beginning in the pharynx and spreading down into the bronchial tubes, caused by the above mentioned streptococcus. He neglects to state where the bacterium has its habitat during the intervals between paroxysms and why asthma is not certainly in a mild degree contagious if the specific bacteria are so abundant in the sputum and why asthma does not follow other infectious diseases and come occasionally in epidemics, and why nasal cauterization should have such a markedly antiseptic effect on bacteria which are growing in the pharynx and bronchial tubes.

THE SURGICAL TREATMENT OF ASTHMA.

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The title is merely a statement of the fact that there is or has been a surgical treatment for asthma, and this involves that asthma must be, at least in the minds of some, a disease in which there is a definite pathological lesion which may be either removed or changed by appropriate surgical measures. In other words, asthma has been taken down from the peg where it has hung for ages, having been styled a pure neurosis, and is put among such diseases as have in most, if not all, cases some appreciable, tangible cause or lesion which produces a portion or all of its characteristic phenomena, either directly or indirectly.

It, therefore, devolves upon us to-day to name the pathological conditions which may be considered causative of asthma, to describe the measures adopted for the relief of said condition, and to give you some idea of the results obtained by such measures, it being understood that these remarks apply to diseased nasal conditions. It may be conservatively stated that the majority of asthmatic subjects have decidedly diseased nostrils. It came about in the process of time that certain asthmatics came to have their nostrils treated for other reasons than the relief of their asthma, and found to their great joy that their asthma was cured as well as their other troubles. It happened in some of these cases that the nose trouble returned and with it came the asthma again, to be once more removed when the nose became better. The conclusion seemed fair that at least in these cases the nose had something to do with the asthma, and further experience proved that a great many other patients received

like benefit from treatment until there are some observers who are so radical that they believe that every case of asthma is distinctly nasal in its origin.

It will not be the purpose of the present paper to defend any such statements, but the sentiment as regards the subject may be perhaps fairly stated as follows: There are four things necessary or involved in the ordinary asthmatic attack: First, an abnormal irritability or diseased condition of the bronchial tube, and especially of the muscular fibres; secondly, a diseased nose; thirdly, the neurotic habit, which connects two with one; fourthly, the irritating cause which usually brings a cold, atmospheric change, an odor or other irritative matter in the air, which stirs up the nostrils and originates the attack. We are bound to assume these factors, or the chain of evidence is broken, for we have diseased nostrils and no asthma, and we have both diseased nostrils and lungs without asthma. Even where there is every chance of irritation to the nose and the heart, too, still there may be no asthma. But if we add to these latter the nerve irritability which is always present in these subjects, then the asthmatic attack is possible. Hence it is evident that the claim is only made that we remove one of the sources of evil when we make the nose as healthy as possible, and it would follow *a priori* that only a certain proportion of the cases are cured because, of course, in no two cases are the proportion of the five different elements the same. In other words, an individual will be benefited in proportion as his nasal symptoms are the more prominent.

It might be interesting in this connection to know what rational explanation there might be, if any, for the connection between the nasal and bronchial phenomena, but the writer must refer the inquirer to another paper on this same subject rather than discuss it at present.*

As far as can be found at present writing, no cases of asthma have presented themselves where there was any other than an obstructive lesion present in the nose. (Once the writer saw a case of beginning atrophic rhinitis where if the patient visited a certain town and stayed a few days he always apparently took

* Asthma: Its Intranasal Origin and Surgical Treatment.—*The Medical and Surgical Reporter*, *August* 20, 1892.

cold and then had asthma. In New Haven he never had it. But this case practically was obstructive as the atrophy was not severe and owing to bends in the septum a little swelling only was necessary and then there would exist obstruction and pressure, (the two essentials for a nasal asthma.) It therefore follows that to name the nasal diseased conditions would be but to rehearse the entire list of obstructions which may occur in the nose. They are, in brief, nasal polypi, deformed or misplaced septums, and hypertrophies of the mucous membrane of both of the turbinate bodies as also that in the septum. By far the majority of the cases which I have been called upon to treat have been those which contained polypi, and as the treatment of these cases may involve every operation which one is called upon to perform in a nostril, I will describe the necessary steps in these cases. The description of the individual steps will be taken for granted as applying to similar conditions where occurring separately.

First: to remove the polypi themselves. This must be done in the most thorough manner possible, for, as you all know, to simply pull them out, means their sure return sooner or later. The removal is usually accomplished with the cold snare. With clever handling, in a fresh case every bit of polyp-tissue can usually be removed. The removal must include not merely the polyp proper but must also destroy the membrane from which they grow. In fresh cases this is usually accomplished by simply cauterizing the thickened membrane very thoroughly with the galvano-cautery. In old and much operated cases where this basement membrane has become very thick it becomes necessary to strip off the membrane down to the periosteum and frequently, if the bone be found carions a removal of a portion of it must occur. Every bit of the polyp-tissue must be removed as before stated, for the reason not only that the trouble will return if we do not, but, as in this case we are treating asthma, we find that frequently the attacks of asthma will not cease as long as there is even a very small bit of the diseased tissue left. Sometimes a ridiculously small amount of polyp-tissue seems to suffice to keep up the attacks, for when it is finally removed the attacks will cease immediately.

Conversely we see the attacks return with the most insignifi-

cant return of the growth. Hence we train to be exceedingly particular about the work done and should never vary or allow our patients to stir as long as anything remains to be done. More frequently than not the polypi grow in inaccessible places and if their return cannot be prevented we frequently have to resort to measures to increase the space at command in the nose. It then often becomes necessary to remove portions of the turbinate bones, but far more often, indeed almost always, the septum nasi is at fault, and it becomes necessary to remove large slabs of bone which by sheer size interfere with breathing space and prevent access to the polyp roots. All sorts and shapes of bony projections, exostoses, deformities and displacements are met with, the usual method of attack being with the saw. Even in one or more sittings as much of the bone as can be removed in thickness is sawed away, and how materially in many cases you can add to the space in the nostril perhaps some of these bits which I pass around will make graphic to you. These fragments are all from the septum and are simply projecting bits of bone which have been removed by perpendicular section with the saw. When sawing alone cannot remove a bad bend of septum owing to the thinness a stellate puncture is made through the most projecting portion of the bend and the septum being broken is righted up in its correct position and held there by splints until solidification has taken place. Frequently by chiseling, drilling or burning one can reduce projections which the saw cannot accomplish. The latter is perhaps the quickest and most satisfactory way of removing portions of the turbinate bone. All these latter operations were mentioned as being undertaken in this specific case to remove pressure and to get room for work at the removal of polypi, but in the cases of obstruction not accompanied by polyp growths the same operations are necessary. It must be remembered that the perfect nose should have no points of contact. The original intent would seem to have been to have the air enter the nostrils and have easy access to both lateral and median surfaces of the turbinate bodies and there was never to be any contact between the septum and these bodies. Such is the rule which governs operations on this class of cases. If there is contact of one turbinate with the other or of either with the septum it must be

removed. First the soft tissues are shrunk by cauterizing with electricity. Then if that does not suffice in the case of the contact with septum, the latter is attacked as it usually is the offending member and enough removed from it to make it impossible in ordinary conditions of "ebb and flood" in the turbinate bodies for sufficient swelling to take place to allow of contact. If the septum will not permit of enough being done or if the turbinate bones are themselves deformed, then they are shaved down to suit the emergency. It is sometimes unjustly criticised that it is aimed to make the nose unnecessarily symmetrical, or in other words, "every crooked path is to be made straight." But in fact such is not the case, the only effort being as stated to prevent the possibility of contact, under physiological conditions. All cauterizing is done with electricity and all the operations under cocaine.

Such in brief are the major surgical measures, but it must not be supposed that these are the only things ever done in the nose. It must be remembered that all such subjects are catarrhal patients, or more specifically stated are troubled by too much secretion or too long retention of viscid secretions. "Cleanliness" is here "next to godliness" and what nature cannot supply, art must. So it follows that all patients are directed to, daily, twice or three times, cleanse the nostrils by the use of some saline or alkaline wash and this the more thoroughly before and after all operations. The cases which have viscid secretion always supplement the wash by the use of some stimulating antiseptic powder, for the two-fold purpose of softening said accumulations, and to render them as sweet and wholesome as possible. Very much irritated and inflamed nostrils must be subdued by emollient sprays, such as the many petroleum products permit us to put into the hands of our patients.

These are all local applications, and although we are speaking of merely local conditions, any who would neglect to soothe the irritated nervous conditions which render possible a single attack of asthma, would indeed be an intrepid worker. So while I leave full swing to my brother who to-day speaks of the medical treatment, I wish to make myself distinctly understood that when called upon to treat a case of asthma, I treat the nose as only one factor, and do not in any wise forget to minister to the

wants of the other portions of the body which are pathologically part of the disease.

And finally, what proportion of asthma cases are amenable to and are benefited by the method of treatment here recommended? Let me rehearse to you what I have quoted before in another place, namely, the experience of Dr. Bosworth, who is, as far as I know, the only observer who has collected any statistics on the subject. He gives in his text-book a tabulation of eighty cases of asthma, treated for the relief of the nasal trouble. Thirty-four were hay asthma, forty-six perennial asthma. Of these, nineteen of the first were cured and twelve improved. Of the second, twenty-eight were cured and twelve improved, so that out of the whole eighty only seven were not benefitted by the treatment. Thus forty-seven of the eighty cases were cured. This was in 1888, and in 1891 he could say that he felt quite confident that in but six of those marked cured have relapses occurred, and in none of them are the present attacks as severe or as frequent as the previous ones. Since then he presents tables of eighty-eight other cases of asthma, in eleven of which results are unknown. Of the seventy-seven, who were thoroughly treated, forty-two were cured, thirty-three improved, two unimproved, figures surprisingly close to the first ones reported. He considered those "cured" as those who had had no attack for a year or more.

Last year when writing a paper on the same subject I undertook to carefully analyze my own cases by the same standard, to see whether my results would bear me out in any such glowing statements as those quoted. I had at that time the modest number of twenty-nine cases, twenty-three perennial, six hay asthma. Of the first, thirteen have been cured, five have had no attack since treatment began, but cannot be classed as cured. Three were improved, two unchanged except that the catarrh was better. The hay asthma was half improved, two cured, and one suffered slight relapse last year, 1891, but had no attack in 1892. It will be seen that these figures are not very different from the others quoted, and were made entirely without previous prejudice.

I can add, that three of the five cases which I reported at that time as having had no attack for a long time, have had

since then, very severe attacks but in all there was a return of the nasal trouble. They are all much better again and are still under observation.

This, in brief, epitomizes the present experience of the writer as regards asthma, and shows, if it be given even a passing glance, that we may be able to do our patients a great deal of good by treating their noses; and it may be here mentioned that even if we do the asthma no good we have at least improved our patient's catarrh. It may, therefore, be fairly stated that all asthmatics should have their nostrils examined, the grosser defects remedied, and thereby we shall probably do the subjects as much good as by any other single method of treatment, and well-nigh as much as by all others put together.

May I, then, in closing, simply give you one typical case. M. B., aged 27, consults me concerning his catarrh, which has been very severe during the last few years, and which occasionally stops his breathing through his nose. Lately his chest has troubled him and his breathing has become short. Very lately some asthmatic attacks, occurring once every twenty-four hours at night. Such reads the record of April 17th, 1890. On examination of the nostrils found mucous polypi in large numbers in both nostrils. Treatment was immediately begun, and on October 30th we had the nose entirely cleared out. The attack of asthma ceased some weeks ago and remained away for two months, during which time patient became quite negligent, in spite of warnings, because he felt so well. He gained in strength and weight, both having been much reduced by loss of sleep occasioned by the attack of asthma.

On December 12th he again returned, having had several bad spells, the worst being one night after a wine supper. Several new growths had appeared, and when they had been thoroughly removed the attacks immediately ceased. He then had another respite, and later, January 30th, started for a trip West, notwithstanding the fact that in two places there were still unreduced "polyp-nests" present. He journeyed some five hundred miles and was attacked with the most violent asthma. He returned to the nearest large city and was treated for some weeks, but things went from bad to worse until he decided to return home. I found numerous large masses had developed on the

old "trading ground," which we had not previously thoroughly reduced, but as soon as they could be removed the attacks once more ceased. He has repeated this process until the present, seeming to be entirely well as regards his asthma for months at a time, but never getting the polypi tissue completely eradicated. Just as soon as the polypi form again, back comes the asthma and back comes the "prodigal son" for renewed treatment. The case is related for the very obvious reason that it illustrates the possibilities of the treatment, the necessity of absolute thoroughness, and gives more graphically than I could possibly otherwise present it the reason why our results are not even better than they are.

Read at the April meeting of the New Haven County Medical Association, 1893.

OBSTRUCTIONS TO BREATHING AND SPEAKING.

G. J. HOLMES, M.D., NEW BRITAIN.

The obstrnctions to breathing and speaking found in the nasal and nasopharyngeal passages are dnc more to hypertrophy of normal tissue than to products of inflammation. Snch obstrnctions include (1) post nasal adenoid growths; (2) true hypertrophy of the inferior turbinated body; (3) ecchondroses and exostoses, nasal polypi and deflections of the septum. The fnnction of the nasal cavity in modifying the voice is one of no little importance, and consists mainly in acting as a resonant chamber, as it were, by which the vocal tones are reinforced. The voice is formed by vibrations of a current of air, set in play by the movements of the vocal cords, its pitch being regnlated by the tension, and its volume being dependent npon the force with which the current of air is driven through the rima glottidis, and hence by the lateral reach of each cord in a single vibration. The character of the voice, on the other hand, or the tone by which each voice is given its individuality, is dependent largely on the pharynx, mouth and formation of the nasal cavity. The larynx simply forms the voice, articulate language being constructed out of the vocal waves by the movements of the soft palate, tongne, lips and cheeks. In uttering certain sounds the soft palate is raised against the wall of the pharynx, and the nasal cavity is more or less shnt off. This occnrs in the nttterance of all the vowels. In the utterance of other sonnds the palate is relaxed and the air in the nasal cavity as well as that in the month is thrown into vibration, giving a nasal twang to the voice. This occurs in uttering M, N, etc., sounds. A good voice is dependent on the proper use of both the nasal and oral vibrations, and therefore requires that the nasal cavity shall be free from obstructions (by tnmors, hypertrophy of its lining

membrane, etc.) and that the movements of the soft palate shall not be interfered with. Mayer observes that the vibrations of air in the oral cavity give rise to vibrations in the nasal cavity, the force being transmitted directly through the hard palate. Czermack who investigated the movements of the soft palate in the utterance of the vowel sounds by means of a probe passed through the nose, showed the soft palate elevated in the highest degree in the utterance of the English ee, and the lowest in the utterance of the American ah, which would indicate a notable change in the utterance of these various sounds. Bosworth thiuks a nasal element is recognizable in the utterance of all sounds, whether oral or nasal, and when the anterior nares are completely occluded the voice still has a nasal element, by the transmission of vibrations through the hard palate. The same is true also when the posterior nares are occluded, as with an adenoid growth in the pharynx. The nasal twang however is destroyed when the nasal chambers are filled with neoplasms, and the nasal character of the voice is totally destroyed. The prominent function of the nose in phonation is a resonant chamber to the voice, and is used if normal, in the production of all articulate sounds. The nasal cavities are important to articulate speech as is evidenced by the fact that fatigue is felt after speaking with the nose closed, and the voice soon breaks down with any effort requiring long use, and further proof is in the fact that the whole difficulty disappears when the obstacles are removed. The singing voice demands an absolute freedom and healthy condition of the cavity for the management of all its registers. It is also absolutely essential for vocalization, and especially for articulation in the upper register. So strong is the instinct of nasal breathing in the child, that nasal obstructions may be responsible for more infantile ailments than is usually supposed, and now that the attention of the profession is being conspicuously directed to diseases of the nose, it is hoped that some more definite information on these points will shortly be forthcoming.

INFERIOR TURBINATED BODIES.

The peculiar erectile property of the mucous membrane covering the inferior turbinated body has been a matter of specu-

lation and interest for years; but in the light of the important functions performed by the nose it gains additional interest, and it will prove advantageous in this place to inquire more minutely into its anatomy and its method of tumefaction, and the purpose which it thereby fulfils. The function of the spongy, venous tissue is to swell on exposure to dry, cold air, especially so as to present a larger area to inspired air. Also it must be regarded as the great secreting organ of the nose. This tumefaction may become persistent, leading to actual disease from the nasal stenosis. The increased arterial blood-supply fills the venous sinuses and communicates such power to the blood in them that the elasticity of the tissue is overcome, and thus turgescence ensues.* A predisposing cause is an unusual narrowness of the bony framework of the nasal fossæ. In this state of narrowing the space, a slight increase in the erectile tissue will lower the air tension in nasal inspiration and cause an additional overfilling of the venous sinuses, destroying, perhaps, the automatic power of contracting the arteries which supply the blood and thus contributing to an over blood-supply; consequently, an hypernutrition and hyperthrophy of the mucous membrane occurs, increasing the size of the inferior turbinated body to such an extent as to fill the inferior meatus, and thus impede free respiration through the nose.† Exciting causes, added to these peculiarities of the anatomy, which cause chronic inflammation are: a moist atmospere, a sudden change of temperature, or frequent subacute attacks, and the dust of some occupations is no doubt responsible for a chronic catarrh. On examination with a nasal speculum we find the field almost entirely filled with the swollen inferior turbinated body, and the inferior meatus completely obstructed. A few points which seem to distiuguish this tumefaction from other morbid conditions of obstruction are these: the prominent surface is smooth, uniform, globular; the color is dark rose, sometimes purplish, though rarely, in anemic conditions, of the pinkish gray color.

INFERIOR TURBINATED BONE.

Careful microscopic examination of sections snared off the

* MacDonald.

† MacDonald.

inferior turbinated bodies with the cold snare while the vessels are injected with blood, shows the structure and mechanism of these bodies. There are found to be three layers—(1) the epithelial; (2) the fibro-vascular; and (3) the submucous, in which are contained the glands and the venous sinus, to which the erectile property is due. These sinuses form a loose, spongy network, with little connective tissues separating their walls. When distended the latter are seen to consist of a thin layer of connective tissue, apparently not elastic, and lined with an endothelium continuous with that of the veins, which open directly into them. When empty the walls become corrugated and lie in close contact with one another. The arterioles, frequently tortuous, but becoming straightened when the structure is distended with blood, or when the connective tissue is edematous, run directly toward the surface and ramify in capillary vessels. These are gradually united into the radicle veins, which in their turn pursue a more or less direct course towards the venous sinuses, into which they immediately empty their contents. Many specimens having been examined appear to set at rest the long disputed mechanism.* In the fibrovascular and submucous layers there appears to be a considerable development of elastic tissues, to which is due the property the venous network possesses of emptying itself as soon as the blood-supply is cut off by contraction of the arterioles. Thus the mechanism of erection and collapse of the inferior turbinated body is quite simple. The function of these erectile bodies appears to be that of increasing the area of mucous membrane over which the air passes, more especially when additional moisture is required. For, instance, after exposure to cold we find the bodies assuming their greatest proportions, while in a moist atmosphere they are often found collapsed. The mechanism of erection appears to be vasomotor. Increased blood-supply over-fills capillaries, veins and sinuses. The latter become over-distended and produce tumefaction of the whole structure. Presumably, also, the filling of the sinuses induces a stagnation of blood in the veins and an increase of† pressure in the capillaries and arterioles, thus augmenting transudation and secretion, a process

* MacDonald.

† MacDonald.

similar to that obtaining in the kidneys. That such regulation in the secretion from the turbinated bodies is necessary will be readily conceded, when it is remembered that the colder the atmosphere, other things being equal, the greater the amount of moisture necessary for saturating the air raised to the blood temperature with aqueous vapor. No sooner is the arterial supply arrested than the sinuses are able to empty themselves, owing to the elastic properties of the tissue in which they lie, and it is thus that cocaine, by inducing contraction of the arterioles, checks the supply of blood to the sinuses, and so causes collapse of the spongy bodies.

POST-NASAL GROWTHS.

Since the subject of post-nasal growths was very fully discussed at the International Medical Congress held in London in 1881, the disease has been familiar to the profession at large; yet great divergence of opinion still prevails as to the importance of these obstructions to nasal respiration. Many of the older school maintain that it is never necessary to remove these growths as they undergo spontaneous atrophy at puberty. Some of the younger rhinologists, however, hold that these adenoids are responsible for half the ills of infancy and young adult life. These adenoid vegetations occur chiefly in children and young adults. Climate seems of some importance in the production of this disease, for while it is common in damp, cold climates, it is comparatively rare in the south of Europe and less common in America. In a large proportion of post-nasal growths we find at the same time a well marked anterior obstruction of the nasal fossæ in one form or another. So often does some other source of obstruction coexist together with post-nasal adenoids that nasal respiration is not often restored by simply removing the adenoids. The cause of adenoids, according to the latest theory, is as follows:* Wherever for any cause we have partial occlusion of the nasal fossæ, so long as respiration is conducted through the nose there is a physical necessity for a diminution in the barometric pressure behind the seat of the stenosis. This inevitably results in more or less over-filling of the blood-ves-

* MacDonald.

sels, which in its turn leads to hypernutrition and hypertrophy of the glandular structure. This theory is strengthened by the fact that nose breathing appears to assert itself in spite of great difficulties, especially during sleep. Post-nasal growths are divided into two general varieties. In one form there is a large hypertrophied mass in the vault of the pharynx, and in the other form the vegetating glandular tissue is plastered over the posterior surface of the palates. The hypertrophy at the vault of the pharynx is called Luschkos' tonsil—the third tonsil—and it is also sometimes called the pharyngeal tonsil.

Delevan says that one of the most interesting phases of adenoid disease is that condition in which a temporary enlargement of the tissue at the vault of the pharynx takes place under special excitation, the enlargement subsiding with the disappearance of the cause. He relates the case of a lady who consulted an eminent specialist in London, who found upon a digital examination a considerable mass of adenoid growths, which in his opinion should have been long ago recognized and removed. The patient, being in Paris a month later, consulted a specialist on the subject, who failed upon a rhinoscopic examination to confirm the diagnosis of the London physician. Having returned to New York and consulted her physician, he found the adenoids and referred the case to Dr. Delevan, who found a month after the patient had been referred to him, after a rhinoscopic examination, a decided redness and only a very slight degree of thicking at the pharyngeal vault. Further investigation developed the fact that the patient had contracted a severe coryza both on the outward and homeward voyage, and that she was suffering from these colds when examined in London and New York. The hypertrophy, therefore, was due to these acute attacks; it existed during their course, and finally when they subsided it disappeared. This phase of adenoid disease, although common, is so little understood as to mislead three very eminent specialists. It appears to be analagous to the acute enlargement of the faucial tonsil, which is irritable and liable to swell during attacks of cold. It is a condition capable of causing much annoyance. While cases of acute enlargement similar to this are rare, the acute enlargement of the pharyngeal adenoids, already to some extent hypertrophied, is a matter of the commonest

occurrence, and opportunity for studying it is constantly afforded.

Since the "grip" most every physician pays some attention to the treatment of catarrh, either by the use of sprays or douches. It may be well to add that the hypertrophy at the vault of the pharynx is at times similar in structure to hypertrophied faucial tonsils, and that spraying and douching has no effect upon this form of obstruction.

ADENOID GROWTHS.

Patients with these troubles usually come first to the aural surgeon for deafness, as the affection usually escapes notice until some such serious complaint supervenes. Often the family medical adviser gives assurances that the child will recover spontaneously as age advances. Snoring during sleep is often complained of, and is always present. Snoring, it need hardly be explained, depends upon the indrawn current of air impinging upon the velum, which is thrust forward and downward by the growth, and thus is brought well into the current of air during buccal respiration, and yet we hear this snoring although the patient breathes with his mouth tightly closed. In this case also the inspired current of air is directed on to the upper surface of the soft palate, and thus sets it vibrating. At its worst the interference with respiration results in restlessness, the patient tosses about a good deal, throws off the bedclothes, and occasionally wakes with a mild delirium. Older patients dream, and on waking complain of a dryness in the throat, accompanied with a general feeling of malaise. Sometimes complaint is made that the child never blows his nose, and his speech sounds as though he always had a cold in the head. Speech does not differ materially from that found in other forms of nasal obstructions, though here we have always added a curious indistinctness and thickness of speech, resulting presumably from the want of muscular tone in the palate muscle; also these adenoid vegetations are plastered over the posterior surface of the soft palate, rendering it thick and ungainly. In this condition of adenoid vegetation there is a remarkable tendency to substitute the unasperated for the asperated consonants, from which it would appear that the latter are assisted in their pro-

duction by more resonance in the nasal chambers; thus B is substituted for P, D for T, and Dh for Th. M and N, depending entirely upon nasal expiration, become impossible to these patients, and they are forced to say "bay" for "may," and "day" for "nay." Besides these changes we have others depending upon the inability upon the part of the soft palate to approximate itself to the posterior wall of the pharynx. The gutturals in these cases lose some of their value. We find G hard substituted for K, and "kick" is "gick." Enlarged tonsils probably never of themselves induce buccal breathing, this being due to the concomitant nasal growths. Tonsils are sometimes observed large enough to meet in the middle line, although the mouth is held closed without any inconvenience.

Pathologically these growths consist of lymphoid tissue, and are nearly identical with the tonsils. The tissue is spoken of as adenoid after the nomenclature of His; but this title is somewhat inappropriate as it has no claim to glandular function. The structure consists of a retiform connective tissue, the trabeculæ of which are formed of ramified corpuscles which may or may not retain their nuclei.

The net work is so stuffed with lymph corpuscles that a section without previous penciling is indistinguishable from granulation tissue. The post-nasal growths are richly supplied with blood and covered with a layer of ciliated epithelium.

The pathological anatomy of these adenoids throws no light upon their etiology. The most that can be asserted from microscopical investigation is that they consist of a tissue which everywhere evinces a strong tendency to augmentation in bulk, upon very slight provocation. So that any increased source of blood supply, whether due to the physical condition already discussed, or to merely inflammatory congestion, will be sufficient to account for them. Fibrous tumors of the nasopharynx often generally make their appearance about the same age as adenoids though this fact need not in any way confuse the diagnosis.

The posterior enlargement of the inferior turbinated bodies may cause obstruction and this enlargement may be due to the same condition that induces hypertrophy of the glandular tissue in the surrounding parts.

The glandular tissue at the base of the tongue is sometimes,

when hypertrophied, an embarassment to speakers and especially to singers.

The faucial, lingual, and pharyngeal tonsils complete the circle of tonsilar tissue, and all hypertrophy of these tonsils, it is believed by the latest and most accurate investigators, arises from the same common cause.

With perhaps an inherited tendency to lymphoid tissue in the pharynx, a slight inflammation, or a temporary obstruction, or both, and we have the beginning of a condition which is far reaching, and of vast importance as a cause of many of the ills of young adult life. It is the opinion of many observers that diphtheria and croup rarely attack others than those patients who are predisposed to a production of this lymphoid tissue.

Deviations of the septum, exostoses and ecchondroses are believed to have a traumatic origin, a consideration of which will not be attempted in this paper.

Nasal polypi and hypertrophied faucial tonsils are familiar to every physician and need no consideration here.

In regard to treatment, it would make this paper too long to attempt even an outline. However, it may be said briefly that hypertrophied turbinated bodies may be shrunk either with the electric cautery or such chemical agents as may be deemed best after a careful diagnosis of the stage and condition of the hypertrophy, while under the effects of cocaine.

The mulberry enlargement of the posterior portion of the inferior turbinated body must be strained off. The pharyngeal tonsil must be removed, also the adenoid vegetations plastered over the posterior surface of the palate.

I have found the Gleitsmann forceps very useful, also the Gottstein's curettes, in suitable cover for the removal of these growths.

A knowledge of the anatomy of the rhino pharyux and a delicacy of touch is absolutely essential to the proper treatment of hypertrophies in this region. It is unfortunate to strip off the lining mucous membrane—it is a calamity to fracture the septum, and humiliating for the operator to find no adenoids with his forceps and yet the obstruction to the breathing continue the same as before he operated.

OBITUARIES.

Cowards die many times before their deaths;
The valiant never taste of death but once.
Of all the wonders that I yet have heard,
It seems to me most strange that men should fear;
Seeing that death, a necessary end,
Will come when it will come.

JULIUS CÆSAR, Act ii, Sc. 2.

Although sketches of our deceased Honorary Members have appeared at various times in the annual publications of the Societies of which they were active members, it is deemed best to notice them here, and the following brief outlines have been prepared by the Assistant Secretary, Dr. Julian La Pierre, of Norwich.

OBITUARIES.

JOSEPH SARGENT

Was educated at Harvard, receiving the degree of A.B. in 1834 and M.D. in 1837. He became a member of the Massachusetts Medical Society in 1840, and subsequently became consulting physician to the Worcester City Hospital. He was made an honorary member of this Society in 1855. He died in 1888. A sketch of his life has been published in the Transactions of the Massachusetts Medical Society.

BENJAMIN FORDYCE BARKER

Was born the son of a physician, at Wilton, Maine, 2nd of May, 1817 (or 1818). He graduated at Bowdoin College in 1837, and studied medicine with Dr. Henry I. Bowditch, at Boston, Mass., subsequently pursuing his studies in Edinburgh, and Paris, receiving the degree of M.D. from the latter city.

He began the practice of medicine at Norwich, Conn., becoming a member of the New London County Medical Association, in 1842. He was the regular Dissertator at the State Convention of 1848, his subject being Some Forms of non-malignant Disease of the Cervix Uteri. He was elected an Honorary Member of this Society in 1860.

In 1845 he was appointed Professor of Obstetrics, in the Maine Medical School, but in 1850, being elected Professor of

Midwifery, and Diseases of Women, in the New York Medical College, he removed to that city, where he died of apoplexy, on the 30th of May, 1891.

His body was brought back to the city, the field of his first efforts, and laid at rest in the Yantic Cemetery.

His obituary may be found in the *New York Medical Record*, Vol. XXXIX, page 660.

Of student days at Bellevue, my most pleasant memory is of the kindly faces and encouraging words spoken to me by B. Fordyce Barker and Frank H. Hamilton.

NATHANIEL C. HUSTED

Was born on the 22nd of Oct., 1825, at Greenwich, Conn., and obtained his medical education at the New York University, graduating in 1850. He settled in New York, soon becoming a member of many local medical societies.

One of his important contributions to medical literature, was a paper upon "Resection of the Elbow-Joint." He was a member of the New York State Medical Association and his memoir will soon appear in the coming "Transactions" of that Association.

He died at Tarrytown, Nov. 19th, 1891, at the age of sixty-six. He was elected an Honorary Member of this Society in 1864.

HENRY INGERSOLL BOWDITCH

Was born at Salem, Mass., August 9th, 1808, and graduated at Harvard in 1828, graduating from the Medical Department of the same college in 1833. He settled in Boston, and for some years was Professor of Clinical Medicine in the Harvard Medical School, holding the position of physician at the Massachusetts General Hospital and the City Hospital of Boston. He was elected an Honorary Member of this Society in 1870. He died January 14, 1892. In 1876 he was elected president of the American Medical Association.

PLINY EARLE

Whose medical life was devoted chiefly to the specialty of insanity, was born in Leicester, Mass., Dec. 31, 1809.

His medical education was received in the medical department of the University of Pennsylvania, graduating with the degree of M.D. in March, 1837. He settled in Philadelphia, but soon after became resident physician to the Friends Asylum for the Insane, at Frankfort, Penn. In 1844 he was appointed superintendent of the Bloomingdale Asylum at New York; in 1853, visiting physician to the City Lunatic Asylum on Blackwell's Island; and in 1864 superintendent of the State Lunatic Asylum at Northampton, Mass.

After graduating, he spent two years in Europe, one of which was passed in the medical schools and hospitals of Paris; the other, visiting various institutions for the insane, from England to Turkey. In 1849 he went to Europe the second time, visiting thirty-four institutions for the insane, and in 1871, for the third time, visiting forty-six similar institutions.

He was one of the original members and founders of the American Medical Association, and contributed largely to medical literature. He was made an Honorary Member of this Society in 1882. He died May 17, 1892.

DR. GILMAN KIMBALL

Was born at New Chester, N. H., December 8th, 1804, and graduated from the Medical Department of Dartmouth College in 1827. He began practice at Chicopee, Mass., but soon after visited Europe, spending most of his time in attendance upon the surgical cliniques given at Hôtel Dieu and La Charité in Paris.

After his return to this country he located at Lowell in 1830. He received the honorary degree of M.D. from Williams College in 1837; also the honorary degree of A.M. from Dartmouth in 1839.

He became a member of the Massachusetts Medical Society in 1832, and was elected its vice-president in 1877.

In 1844 he became Professor of Surgery in the Vermont Medical College at Woodstock, and in 1845 held the same professorship in Berkshire Medical College, at Pittsfield, Mass. He subsequently resigned these professorships, to take charge of the Lowell Hospital.

He served as brigade surgeon in the rebellion under Gen. B. F. Butler at Annapolis and Fortress Monroe.

During the sixty odd years of his practice he performed most all the operations known to common surgery, and contributed many articles which appeared from time to time in the *Boston Medical and Surgical Journal.* This Society elected him an Honorary Member in 1857. He died July 27th, 1892.

HENRY W. BUEL, B.A., M.D., LITCHFIELD.

BY R. S. GOODWIN, M.D., THOMASTON.

Dr. Henry Wadhams Buel died at his residence in Litchfield, January 30th, 1893 He was attacked suddenly with apoplexy, January 27th, but did not lose consciousness until a short time before his death, which occurred after three days of illness. He had expected this mode of death for some time, having had premonitory symptoms, and was fully aware of the nature and probable result of the attack when it came.

He was the son of Dr. Samuel Buel, who for forty years was a prominent physician of Litchfield; and a nephew of Dr. William Buel, also of the same town.

He was born April 7th, 1820. In 1840 he entered Yale College and graduated in 1844, receiving the degree of B.A., and in 1847, the degree of M.A.

After graduation, he began the study of medicine with his father, but afterward became a student in the office of Dr. Gurdon Buck of New York City, at the same time attending the courses of lectures at the College of Physicians and Surgeons of that city. He received the appointment of junior walker in the New York Hospital and passed through the grades of junior and senior walker, remaining one year in each.

After receiving the degree of M.D. from the College of Physicians and Surgeons, he was appointed house surgeon at the New York Hospital and served in that capacity through the regular term, receiving at its close a certificate of recommendation from the surgeons and governors of the hospital.

Immediately after leaving the hospital in 1849, he was appointed resident physician of Sanford Hall, Flushing, L. I. Here he remained for five years and acquired a reputation as a specialist in nervous and mental diseases.

He returned to Litchfield in 1854, where he entered upon the

practice of his profession. In 1856 he visited Europe, and in 1858 founded the institution in Litchfield known as the Spring Hill Home for Nervous Invalids. Here began and ended the chief and crowning work of his life, and by his energy and fine aptitude he made this institution a complete success. His friend, Dr. Henry P. Stearns of Hartford, says of him in the New England Medical Monthly: "For this class of patients his large sympathies were always enlisted and the institution became the center of his professional life. He sought to make it truly a home, and as nearly as possible to have his patients enjoy a home life. They became, especially in his latter years, as wards and children to him. He had that professional tact in his intercourse with them that enabled him to secure their entire confidence and they often said that his presence gave more delight than the medicine which he prescribed."

Dr. Buel held for many years the office of President of the Litchfield County Medical Society, and was greatly beloved and admired by all of its members. He was their ideal of all that was noble, manly and courteous in the life of a physician, and found time amid the multiplicity of his duties, to attend regularly the meetings of the society, and to contribute his share towards making them interesting and profitable. His opinions were highly valued by his medical brethren as the product of a carefully trained, well informed and logical mind.

Dr. Buel held many important positions in the medical world. He was in 1872 elected President of the State Medical Society, and received a vote of thanks for his annual address on the "Advancement of the Medical Profession." He was a member of the American Medico Psychological Association; of the New England Psychological Society; of the Academy of Medicine, of New York; and of the American Medical Association. He was appointed by Gov. Hubbard as one of the three commissioners to examine into the need of further provision for the indigent insane of the state.

He occupied also many important positions of honor and trust outside of his profession, in his native town and state. He was for twenty-two years vice-president and since 1887, President of the First National Bank of Litchfield. He was one of the projectors and at one time the President of the Shepaug Rail-

road; a member of the Connecticut Historical Society and of the University Club. He was a Republican in politics and a Congregationalist in religion, being a deacon in that church at the time of his death. He owned a large and productive farm near his residence and took delight in keeping it always under an excellent state of cultivation.

He had been married twice, but was a widower when he died. Three children survive him, Dr. John L. Buel, who succeeds his father in the superintendency of Spring Hill Home, and two daughters, unmarried.

I here take the liberty of quoting the following faithful and touching tribute to the memory of Dr. Buel from the graceful pen of Dr. G. W. Russell of Hartford, his life long friend and early professional associate. It was published soon after Dr. Buel's death, in the Hartford Courant, but deserves a more permanent record in these pages. Dr. Russell says: "My acquaintance with him commenced many years ago at a medical gathering at New Haven, and ripened into a friendship which was mutual and sincere. He was ever interested in matters pertaining to his profession and possessed the confidence of his brethren and the favor of the public, and so was largely consulted by both. Of a large frame and robust constitution, he was well calculated for great labor. Methodical in his arrangements and business-like in his habits, he was able to attend to many and diverse occupations. Whatever was of interest to the town, of a benevolent or public nature, found in him an ardent advocate and co-laborer. So robust was his constitution that he was able to perform an amount of work that would have overwhelmed most men. It always seemed to me that he possessed in an eminent degree that sober, common sense which is a golden treasure to the fortunate owner of it, and so he regarded the various matters which came before him with a temper allied to the judicial mind. His disposition to do the thing which was right was uppermost with him; it was a natural habit, and was confirmed from conviction. He was so much of an educated Christian gentleman that it was comparatively easy for him to do that which would give a man peace at the last. In all his relations, as husband, father and friend, he was most happy; in his professional life he was honorable and just; in the recogni-

tion of his duty to his fellows, he was liberal, humble and sincere. In the sturdiness of his character, we had the assurance that he would be honest in whatever he undertook.

"The private institution which he established and conducted for a long time, was the intense desire of his early manhood and the pride of his advancing years; it was his life work, as he regarded it, and was the outcome of a laudable ambition and a proper conception of his own powers. He had a happy way of dealing with his patients which secured their confidence and aided greatly in their restoration. We may place him in the list of specialists who have been an honor to our profession and to our state. He may be classed with Drs. Todd, Woodward, Brigham, Butler and Shew, who gave their lives to the humane treatment of the insane."

In the field of surgery, Dr. Buel was considered an expert, and was often called by other physicians to distant towns to perform difficult and important operations. On such occasions his judgment was sound, his courage assuring and his *technique* faultless. He was also greatly in demand as a consulting physician in critical cases of severe disease, and was sure to leave a good impression after him. He never sought to disparage or undermine the reputation of a professional brother, but on the other hand he would adroitly manage to establish more firmly the confidence of the patient and his family in the attending physician.

Such were the generous qualities of his mind and heart, such his *bonhomie* and refinement of manner, such his charming personality and gentleness of speech, such his sincere friendliness and helpfulness in times of trouble, that he will be ever sacredly treasured in the hearts of his surviving professional associates as

> "Foremost leader of his time,
> Rich in saving common-sense,
> And, as the greatest only are,
> In his simplicity sublime."

ELIJAH C. KINNEY, M.D., OF NORWICH.

BY LEONARD B. ALMY, A.B., M.D., NORWICH.

The city of Norwich snffered an irreparable loss in the cool gray of the morning of October the 19th, 1892, when Dr. Kinney passed away from us. To us, his confrères, his snddeu demise made a vacancy in onr ranks, which conld not be filled and as time goes by we feel still more the need of his ever wise counsel and his unvarying faithfnl snpport in any trying cases.

His more intimate friends miss his genial face, his old school conrtesy and his jovial langh ; while thousands mourn the loss of one who was, not only their loved and trusted physician, but their wise counsellor and trne friend as well.

Elijah C. Kinney was born in Norwich, July 25th, 1829, and was the son of Jacob Witter Kinney. His early days were passed in the town where he was born and there he received his early education. He entered Trinity College but was obliged to leave on acconnt of his health. In 1856 he entered the office of the late Fordyce Barker, who, to the end of his life, remained his firm friend, and commenced the study of medicine in the old New York Medical College on Thirteenth Street, where he received his degree in 1858, and was appointed one of the House Staff of the Bellevue Hospital. After serving two years there, he was appointed resident physician at the Nursery and Childs' Hospital. Before leaving for Europe he spent fonr months in the office of Dr. Agnew of New York. During the years 1860 and 1861 Dr. Kinney studied in Paris, London and Dublin, returning to his native town in 1862. For more than thirty years he occupied the same office on Washington Street. His thorongh training soon gave him a gratifying standing among his professional friends and he soon attained the position, which he held, as the best consulting physician in Eastern Connecticut. He was always, like his friend and preceptor, Dr. Barker, most kind

and helpful to the younger members of the profession and was more than careful never by word or deed to cast any doubt upon the professional skill of any reputable physician.

He was himself the embodiment of the spirit of the Code of Medical Ethics and he strove in every way to raise the standard of medicine in Norwich. An indefatigable searcher after medical truth, he kept fully abreast of the march of modern science and a student of medicine he remained to the end of his life.

His sturdy hatred of shams and all kinds of medical advertising made him disliked by the quacks of all descriptions and his hearty censure of all irregular practices will be long remembered by those who had the pleasure of hearing him.

He was conservative by nature and education but he was always ready to see the good in any new thoughts presented to the profession, as he was quick to see the fallacies which so often appear in the writings of those who rush into print with theories based on insufficient proof.

To the energy of Dr. Kinney was due the organization of the Norwich Medical Association and to him more than to any one we owe our beautiful hospital which was built by Mr. William A. Slater and Mr. W. W. Backus.

The profession of New London County honored him with all the gifts at their disposal. He was twice President of the city society and twice held the same office in the County Association. In 1886 Dr. Kinney was elected President of the State Society. For many years he was physician to the Alms House and the "Old Ladies' Home," and was a valued member of the Board of Visitors at the Insane Asylum. For a long time he had the best families of Norwich as his patients and was loved by them in a way, which falls to the lot of few in the profession.

The esteem in which he was held by his fellow practitioners is shown by the following resolutions, which were passed by the Norwich Medical Association on the occasion of his death :

"Whereas, the Norwich Medical Association is called upon to "lament the death of its founder and most active, useful and en- "thusiastic member,

"*Resolved*, that in the death of Dr. Elijah C. Kinney, the pub- "lic has lost a physician of rare scholarship, ripe judgment and "great skill;

"That the profession of Norwich has lost a member generous "in his relations with his fellow practitioners, wise and sympa- "thetic in all his counsels, who strove to raise the profession to "his own high ideal of culture and ethics,

"That the Connecticut Medical Society, which showed its ap- "preciation of the worth of Dr. Kinney, by electing him to be "its honored president, will realize in his absence that it has lost "one of its most steadfast and valued members.

"*Resolved,* That the Norwich Medical Association attend the "funeral of Dr. Kinney in a body.

"*Resolved,* That a copy of these resolutions be published in "the daily papers, and that a copy be sent to the family, and "that these resolutions be entered in the minutes of the meeting."

Dr. Kinney remained a bachelor throughout his life—devoting himself to the care of the family of his widowed sister and he proved himself to them an indulgent and kind uncle.

RODERICK ADAMS WHITE, M.D., OF SIMSBURY.

BY GURDON W. RUSSELL, M.D., HARTFORD.

Though Dr. White died December 3, 1887, yet no notice has been taken of him by our Society. I have been requested to prepare a sketch of him at this late day, and adopt part of an address, which was made at the dedication of a Memorial Fountain in Weatogue, in September last.

Roderick A. White was born in Enfield, October 24, 1809. He was the son of Roderick White, a native of Springfield, Mass., and Delight (Bement) White, daughter of Dennis and Lydia (Adams) Bement. Of his early education I have learned no particulars, but it is to be supposed that he had some academical instruction to fit him for the profession which he afterwards adopted. His father removed to Hartford sometime during his boyhood, and was known to me about 1833, or 1834, and his son probably lived there in 1831, for I have heard that he was a student in the office of Dr. Amariah Brigham, for a time. He received his medical diploma from Yale college in 1832, and his name appears among the physicians in Hartford, of the same year. In 1833, and 1834, he was in practice in Manchester, from which place he removed to East Granville, Mass. About 1842 he removed to Simsbury, and became associated with Dr. Shurtleff, whose place he took after his death. He married November 4, 1844, Elizabeth W. Hungerford, of Wolcottville, and remained in the parish of Weatogue the remainder of his life, doing his business in a modest, quiet, unpretending way, with faithfulness to his patients, and to the satisfaction of the public.

I knew Dr. White for many years, and was accustomed to meet him not unfrequently in cases which were difficult, or supposed to be difficult. For it is much to his credit,

and to the credit of any physician, that he should be willing that his cases should be seen by another, if so desired by friends, even if he himself has no doubts, or considers that there is no danger. From a somewhat extended opportunity I can say that I think no one has suffered in reputation who has willingly consented to a consultation, but really has gained by wishing for a divided responsibility. Those few of my acquaintances who have manifested a reluctance, or who have consented only at the last moment, have, I fear, neither satisfied themselves, or gained the good opinion of their friends. He was not a man of many words, but what he spoke, he spoke intelligently, in good, sound English terms, without holding back, or rendering it necessary to draw the information from him reluctantly, as you would draw out a tightly pressed cork from a bottle. In all of our intercourse, which lasted for many years, no unpleasantness occurred, nor a divided opinion which it was necessary to combat with many words. In all this there was no dependence, or sense of inferiority felt on the one hand, nor of superiority on the other. It is such conduct as this which redounds to the honor of our profession, and makes us truly feel that we are brothers, willing at all times to help and be helped.

And this matter of conduct came to him, I suppose, not merely because he possessed a quiet, undemonstrative nature, but because he had reasoned out the truth, that a straightforward way of dealing, with no concealment and no exaggeration, was the honest and just way, and so always the best. If he was ever injured in his feelings, and probably he was, for as a tribe we are somewhat given to over-sensitiveness, he had the happy faculty of concealing it, and was not disposed to make it worse by making it public. On one occasion only did he complain of the treatment by another practitioner, who, apparently, had purposely supplanted him, and then it was in no bitter terms, but with a quiet and gentlemanly reproach, which was very natural and becoming in him, but which was not as serious as was deserved.

Dr. White was a patient, sensible practitioner; he was of fair talents, and was fairly educated in his profession. It would be folly to claim for him the high endowments of a scholar, or that he was a student of extended research; his education had not

made him such, but he improved the opportunities which came within his reach, and was disposed to think for himself. And so it happens not unfrequently that these quiet, undemonstrative men possess a rare judgment concerning disease and of the best remedies appropriate to its cure.

As a physician he was judicious in prescribing, and confined himself to those remedies with which he was familiar, and of whose powers he was well assured. As a consequence, new theories of disease and the highly extolled virtues of new drugs were received with something of incredulity, or were distrusted, until time and their employment by others had established their reputation. He was not the one to lead in new fashions in medicine, or in new fashions in anything else. So conservative was his nature, that he held fast to that which he knew to be good, until something better was established, and then he adopted and made use of it, as surely he ought to have done. Such a man is firm in his medical views, his religion and his politics: we know how reliable he is, and where we shall always find him; the vagaries of those who are as "unstable as water" had no attractions for him. If he was persistent in his faith, it was because he had a rock foundation.

He was not a very ambitious man, fond of notoriety or public talk. He loved his home, his town, his profession. Though not unmindful of matters beyond his immediate border, he did not allow himself to be so absorbed by their consideration that he was neglectful of those which were nearer to him. Unselfish and peaceful, he bore in mind the instruction of the Catechism, "not to covet or desire other men's goods, but to learn and labor truly to get mine own living, and to do my duty in that state of life unto which it shall please God to call me."

The dedication of the Memorial Fountain, erected by his wife, brought together a large number of his friends: the addresses which were made, showed the deep esteem in which he was held, and in closing I said—

"I have confined myself mostly to my impression of him as a medical man, others will doubtless speak to you of his general character as a good neighbor, a kind friend, an intelligent citizen of this pleasant town. I could not well refuse the request which has brought me here to-day, to say a few words in respect

of my friend, and in honor of this occasion. The tender sentiment of his partner for many years, has erected this fountain as a memorial in his honor. The pure water which flows from it should ever be a constant witness of the purity of his life. The flood of sunlight pouring its brightness upon this lovely valley to-day, is but the type of that glory which shall ever be the portion of him who has walked in ' peace and quietness ' upon earth.

" How blest is he who crowns, in shades like these,
A youth of labor with an age of ease :
* * * * *
But on he moves to meet his latter end,
Angels around befriending virtue's friend ;
Sinks to the grave with unperceived decay,
While resignation gently slopes the way ;
And all his prospects brightening to the last,
His heaven commences ere the world be past."

GEORGE E. MARKHAM, M.D., BURNSIDE.

BY EVERETT J. McKNIGHT, M.D., HARTFORD.

Dr. George Everett Markham was born in Longmeadow, Mass., March 9, 1857. He was educated at Monson Academy, from which institution he graduated in 1878, and taught school for a while in Hazardville, this State. A part of his vacations were spent in the stone quarries of Longmeadow, and the splendid physical development and remarkable endurance which served him so well in the carrying on of his work were undoubtedly due to the training there received.

He graduated from the University of New York in 1882, and commenced the practice of his profession in Burnside soon after.

He soon won the confidence and respect of the community, and at the time of his death was enjoying a large and lucrative practice.

He was a member of the East Hartford Grange, Crescent Lodge, I. O. O. F., Lafayette Council, U. O. A. M., and of the Order of Red Men of Hartford.

Dr. Markham was interested in all matters pertaining to his profession, and was a member of the Connecticut Medical Society, Hartford County Medical Association, and Hartford City Medical Society.

In politics he was a Republican, and at the time of his death was chairman of the Republican Town Committee. In 1889 he represented the town of East Hartford in the General Assembly, and did good work on the Committee on Humane Institutions, of which he was a member, and was clerk of the special committee appointed by Governor Bulkeley "to inquire and report to the next session of the General Assembly concerning the expediency and practicability of providing further accommodations for the insane at Middletown or elsewhere in the State."

He was acting School Visitor and a member of the Board of Health of East Hartford, and a member of the Methodist Episcopal Church of Burnside. He leaves a wife and one daughter.

His death occurred July 4, 1890, from diphtheria. On the morning of that day he suddenly became asphyxiated by the filling up of the air passages with a piece of membrane which had become detached, and was apparently lifeless when tracheotomy was performed. Under artificial respiration, kept up for several minutes, he rallied for a time, but died about twelve hours later.

WILLIAM P. BARBER, M.D., OF LEBANON.

BY LEWIS S. PADDOCK, M.D., NORWICH.

William P. Barber was born at South Kingston, R. I., June 3, 1846. His early school days were passed at the East Greenwich Academy. After leaving school, he commenced the study of dentistry, but being desirous of more active professional life he abandoned that and gave his attention to medicine. His first course of lectures he attended at Yale Medical College; the next was at Dartmouth, where he graduated in 1870. In 1872 he moved to Lebanon, Conn., and there practiced his profession till his death. During these twenty years the Doctor did much hard work, and made many visits where remuneration could not be expected. Like all faithful physicians he sacrificed his own time and comfort for the good of others. His business included a circuit of many miles. He was skilful in his calling, genial and pleasant in his manners, and honorable in his dealings with his brethren. Politically, he was a Democrat, and very decided in his preferences. Under the Cleaveland administration he served four years as a member of the Board of Pension Examiners. Dr. Barber also held some positions of trust in his own town. He was the acting School Visitor for a period of twelve years, and a member of the Board of Health for four years prior to his death.

The Doctor was twice married. The first marriage was to Miss S. M. Peckham, of Lebanon, in 1873. She died in 1878, leaving a son and a daughter. His second marriage was in January, 1883, to Miss Sarah N. Payne, also a lady of Lebanon. His wife and five children survive him.

Dr. Barber's last illness was pneumonia, which progressed rapidly and fatally. He died April 8th, 1892, mourned by a large number to whom he had given comfort, and by whose efforts health had been regained. He was buried in Lebanon.

GEORGE WILLIS SANFORD, M.D., OF TARIFFVILLE.

BY PINCKNEY W. ELLSWORTH, M.D., HARTFORD.

George Willis Sanford, Tariffville, Conn., son of Joseph and Hopy (Wilmot) Sanford of New Haven, was born in Litchfield, Conn., Dec. 20th, 1807; died Sept. 23rd, 1892. He was educated at Dr. Cooley's classical school, Granville, Mass., and studied medicine from the medical department of Williams College, Mass., graduating M.D. in 1836, and settling in Tariffville in general practice.

He was a member of the County and State Medical Societies; was president of the former in 1874, and 1881, and vice-president of the latter in 1875, and 1882; a member of the Lyceum of Natural History of the Berkshire Medical Institution and of the American Medical Association. He has held the office of postmaster under Harrison and Tyler; has been school visitor nearly forty years; was member of the house of representatives in 1845, 1871, and 1875, and each time member of the committee on humane institutions.

He practiced in Tariffville sixty years, but giving special attention to diseases of women and children, especially obstetrics, in the course of his practice having performed over four thousand obstetrical operations.

Dr. Sanford commanded universal respect, was kind and benevolent in his profession and beloved by all, and his deliberate judgment and advice were greatly sought and as freely given. He stood foremost in the community as a public spirited man, in ecclesiastical and municipal affairs as well as in his profession. Dark stormy nights, or howling winds, or tempestuous storms barred him not from visiting the sick to give relief; no obstacle or danger could deter him. He felt relief in the satisfaction that he had given relief to others; ever ready to offer consolation

to the afflicted and the dying; he lived for others more than for himself. He had not one selfish motive.

He was always found at the house of God on Sundays unless sickness called him away; was efficient in the service of song in the sanctuary, and in all respects an able supporter of the cause of Christ and ordinances of religion: a pillar in the church. Firm in purpose, he continued faithful and active in society and in his profession. In 1885, he became totally blind from the effects of his being thrown from his carriage Feb. 21st, 1883, and again May 3rd, of the same year, which caused a congestion of the blood vessels of the eyes, and for seven years he was hopelessly blind and in a measure helpless and feeble, "ready to depart," as he has expressed it, "when his Maker calls." His was a beautiful example of Christian fortitude.

In Feb., 1830, he married Jane E. Adams, of Tariffville. She died in March, 1872.

In November, 1872, he married Ada L., daughter of Jonathan Eno, Esq., of Simsbury, Conn.

On his eightieth birthday, his children, grand-children, great-grand-children and friends assembled at his home to greet him,—a rare sight of four generations gathered at the festal board.

WILLIAM WICKHAM WELCH, M.D., NORFOLK.

BY EDWARD H. WELCH, M.D., WEST WINSTED.

William Wickham Welch, M.D., was born at Norfolk, Conn., December 10, 1818, and died in the same town July 30, 1892. He was the fourth son of Dr. Benjamin Welch, whose professional life covered a period of about sixty years. Since the death of Dr. John H. Welch at Hartford, January 8, 1893, there rest in the family plot in the beautiful Norfolk cemetery the remains of the father and five sons, all distinguished in the practice of medicine. They were Dr. Asa G. Welch, of Lee, Mass.; Dr. Benjamin Welch, Jr., of Lakeville; Dr. James Welch, of Winsted; Dr. William W. Welch, of Norfolk; and Dr. John H. Welch, of Hartford,—six men whose lives were given to humanity. There are few such records.

The sisters were: Luna, wife of John D. Bidwell, Esq., of Monterey, Mass.; Louisa, wife of Rev. Ira Pettibone, of Winchester; and Alice, wife of Prof. Henry Cowles, D.D., of Oberlin, Ohio.

Dr. Welch leaves two children, Prof. William H. Welch, of Johns Hopkins University, and Emma, wife of William Stuart Walcott, Esq., of New York Mills, N. Y.

Among his nephews are Drs. E. H. Welch and J. W. Bidwell, of Winsted; and W. C. Welch, of New Haven.

Dr. Welch was married November 7, 1845, to Miss Emeline Collin, of Hillsdale, N. Y., who died in 1850. May 2, 1866, he was married to Miss Emily Sedgwick, of Cornwall, a sister of the late General John Sedgwick, who survives him.

Dr. Welch was a rare man, of fine physique and commanding appearance; his intellectual ability was unusual and his judgment rarely at fault. Unassuming, dignified and genial, he made friends and kept them.

Born and dying in the same house, his life-work was quietly

done in his native town and vicinity; but his influence for good extended far beyond the hills of Litchfield county, and his memory will be held dear long after his mortal remains shall have mingled with their kindred dust.

His home was the rallying place of a large circle of relatives, and his hospitality was genuine and without stint. His heart was full of goodwill to his neighbors and townspeople, and during his long life many kind deeds were done to them, of which the only record is on high. He was loyal to his convictions, to his country and to his God. Prëeminently a man to be loved, he was emphatically a man to be trusted.

At his death the rich and poor alike mourned the loss of a personal friend.

Dr. Welch pursued his medical studies with his father and elder brothers; graduated at the Yale Medical College in 1839, and at once entered upon the practice of medicine in Norfolk. By his skill he soon acquired a reputation which extends beyond the limits of the State.

In his profession he kept fully abreast with the times,, and could either hold to the trodden paths or readily adopt new methods. Neither rash nor timid in his practice, he reached a happy medium. The amount of unrequited labor he performed during his long professional career is beyond calculation.

In his earlier years Dr. Welch gave some attention to public and political affairs, and was elected to many important offices, the duties of which he discharged with an unswerving fidelity.

He was a member of Congress from the Fourth Congressional District, 1855–57, and upon his return home was presented with a service of silver plate by his townsmen, as a mark of their confidence and esteem. In 1852 he represented the old Seventeenth Senatorial District of Connecticut, and was a member of the Legislature in the years 1848, 1850, 1869 and 1881.

HENRY PIERPONT, M.D., NEW HAVEN.

BY WILLIAM L. BRADLEY, M.D., NEW HAVEN.

Dr. Pierpont was born at Morris, Conn., April 20, 1831, and he died at his summer residence in West Haven, August 26, 1892. He was a lineal descendant, in the fifth generation, from the Rev. James Pierpont, who was pastor of the First Church in New Haven from July 2d, 1684, to November 14th, 1714, a period of thirty years. In his youth Dr. Pierpont attended the well-known private school of Amos Smith, at New Haven. In 1851 he entered himself as a student of medicine with Dr. J. G. Beckwith, a prominent physician of Litchfield. He graduated from the medical department of Yale University in 1853. He began the practice of his profession at Naugatuck, but in 1858 he was compelled by the condition of his health to abandon his practice temporarily, and he made several trips to Europe. In 1862 his health and strength were so far restored that he was able to resume his practice at New Haven. In 1871 he was married to Miss Helen Warner, daughter of Wyllys Warner, who for nineteen years was Treasurer of Yale University. Mrs. Pierpont survives him, as also three children, two daughters and a son.

The professional career of Dr. Pierpont extended over a period of nearly forty years. During his residence and practice in New Haven the population more than doubled in numbers, and the increase was very great in the northwestern section of the city, which was more particularly the scene of his labors. In the war of the rebellion he was an acting assistant surgeon at the Knight United States Hospital. At the close of the war he was appointed by the government an examiner for pensions, and he served about fifteen years. He was the attending physician of the New Haven Orphan Asylum for a period of twenty years,

from 1863 to 1884 inclusive. During the first eight years his services were gratuitously rendered, and would, no doubt, have been so longer, had not the managers, in view of the increasing amount of the work, felt it right to vote to him some small yearly acknowledgment. He was the examiner for the Connecticut Mutual Life Insurance Company for about thirty years. He was a member of the New Haven Medical Association and also a member of the Connecticut Medical Society, of which he was a fellow in 1864 and 1865. In all the various positions of public responsibility which have been enumerated he performed the duties intelligently and faithfully.

Although never physically very strong, he was endowed with an energetic disposition which often led him to do more work than his natural constitution and the state of his health would safely permit. The ordinary cares and responsibilities of his private and professional life demanded and received his entire attention and he never seemed desirous to bring himself, or his work, to the notice of the public. The writer of this sketch recalls many medical and surgical cases, seen with him in consultation, which were possessed of mutual interest, but only a small number were brought to the attention of the medical profession.

In the Proceedings of the Connecticut Medical Society for 1868, he published, with an illustration, a rare and interesting case of ichthyosis sauroderma. There was also a case of Cæsarian operation which occurred in his practice November 26th, 1875, the operator being Dr. Francis Bacon. It was the second case of its kind in New Haven and it was reported in a collection of such cases, published by Dr. Robert F. Harris of Philadelphia.

He was a member of the First, or Center Church of New Haven, with which, as has already been stated, he was also ancestorially connected. Controlled and guided by the principles of a pure Christianity, he endeavored to exemplify in his life that charity which is full of kindness and Christian love towards those who are suffering. With an intelligent mind and good powers of discrimination in the choice of remedial measures, he combined uniform cheerfulness and suavity of manner which rendered him a most welcome visitor to the sick and gave him success in the practice of his profession.

Towards the close of his life he was obliged to struggle manfully with increasing physical disabilities, and he could truly say, in the words of a beautiful hymn:

"I know not how this languid life
May life's vast ends fulfil;
He knows, and that life is not lost
That answers best His will.

"No service in itself is small,
None great though earth it fill;
But that is small that seeks its own,
And great that seeks God's will."

GEORGE WHITEFIELD AVERY, M.D., HARTFORD.

BY NATHAN MAYER, M.D., HARTFORD.

Dr. George Whitefield Avery was graduated at the Yale Medical School in the spring of 1861, after which he became one of the staff of the Hospital at New Haven. He served in this institution until fall when, swept away by the feeling which at that time agitated the entire North, he entered the army as Assistant Surgeon of the Ninth Connecticut Volunteers. This regiment was ordered with Gen. Butler's expedition to New Orleans, and the doctor was stationed on Ship Island and assigned to Hospital dnty. He performed this so vigorously, and introduced such discipline and good order that it came to the notice of the commanding general of the department. After New Orleans had been occupied by onr troops General Butler recruited a regiment of loyal Louisianians and called it the First New Orleans Volunteer Infantry. Dr. Avery was appointed Surgeon of this regiment in December, 1863. He had, in the meanwhile, been ordered to establish a hospital in the old St. James Hotel, and all records and much personal testimony agree in praise of his efficiency, good sense, careful management, excellent, yet kindly discipline, and his nseful medical service while in charge of this institution. Again and again I have had opportunity to witness his meeting with former patients of this hospital, old soldiers, and they invariably exhibited a very joyful appreciation and pleasant reminiscence of their treatment there. Dr. Avery was high in their esteem and memory, and they showed it on these occasions. He himself always enjoyed meeting these men and made much of them and their cases, which he usnally recollected in every feature.

At the time when Dr. Avery was Surgeon in charge of the St. James Hospital, Dr. Francis Bacon of New Haven was in charge

of the St. Louis Hospital. At a later period, Dr. Avery had charge of the New Orleans Marine Hospital. At the same time that he was made Surgeon of the First New Orleans Volunteer Infantry—a regiment that had a dubious and questionable existence—a gentler duty was delegated to him, that of visiting physician of the New Orleans Widows' Home. This shows very conclusively that those in command understood not only Dr. Avery's soldierly and medical qualifications, but also his tender heart and his pleasant way of meeting patients. It was evidently a trust in his courtliness and forbearance that caused him to be chosen from among many for this duty, and I myself can bear evidence to these qualities in our deceased colleague.

As is manifest from the above, the doctor, though Surgeon of the First New Orleans Volunteer regiment, was on hospital duty most, if not all the time. At one period he was in charge of Camp Distribution, and he was of good service there to put spirit into dragging convalescents and send them to the field. And he was utilized by the authorities in many directions. On July 8th, 1863, he "exsected the left hip joint of James Miller, 162nd New York Volunteers, from the head to one inch below the trochanter major, with the loss of little blood and no arteries to ligate." So say his notes, which, however, do not give the final result.

But all things must end, and so did the war. In June, 1866, Dr. Avery was mustered out of service, and later, under the reconstruction government, accepted and held the post of Sheriff of the city in 1867, and Deputy Marshal in 1868 and 1869. That he was selected by the reconstruction leaders for these important and ticklish posts in years of Southern turbulence and discontent shows that they regarded him as a man of loyalty, of energy, and of tact.

Later he went into private practice and had good success. But, what redounds to his honor more than the simple success of practice, is the fact that during a yellow fever and a cholera epidemic which succeeded each other in New Orleans, he remained at his post, though many medical men left to escape the infection. He did much earnest work during both epidemics, and especially among the poor and needy that fell most readily victims to the plague. Yet, afterward, life in the South became

burdensome to him, a Northern man, with social necessities and neighborly longings. The feelings of the conquered population were too acute to make either practice or living pleasant, and the doctor returned to his native state, and settled in Hartford. This was early in the seventies,—in Nov., 1871, I believe. He has been in practice here since then, a peculiar and noted figure among the medical fraternity. Dr. Avery served as surgeon of the First regiment, C. N. G., for several years, and he was attending physician of the American Asylum for the Deaf and Dumb for fully two decades. He was twice married, first to Miss Lydia L. Shipman, in May, 1872, and, the second time, to Miss Elizabeth P. Keep in September, 1884. The latter survives him with four children. Dr. Avery was examiner for the Soldiers' Home, examiner for the New York Life Insurance Company, and, for the past four years, has been an examining surgeon for the U. S. Pension office. In all these positions he manifested admirable qualities, and impressed those with whom he dealt very favorably.

His private patients esteemed him highly and became much attached to him. The deaf and dumb frequently showed their gratitude and affection. And the old soldiers, whom he examined, were delighted with his breezy and jovial manner, quite independent of the results of his examination. He earnestly devoted himself to whatever he was engaged in, and carried out each duty as best he knew. The doctor was a peculiar individuality in many respects, different from the commonplace. He had his own ideas and the courage to maintain them, and he made a deeper impression on those that came in contact with him than they realized at the time. Last February he was taken ill, but continued practice for forty-eight hours when he should have been in bed. It proved pneumonia, and after a few days of struggle, like many others, he succumbed and passed away from earth on the morning of February 23, 1893, fifty-three years old. My last interview with him demonstrated his anxiety fully to attend to his duties. He insisted on explaining some point in pension certificates, though it was difficult for him to speak. And then we sat silent for many minutes, he holding my hand. The blueish touch of cyanosis showed through the dusky red on his cheek, but his eye was bright, and still quickly observant.

With him passed away a medical practitioner of considerable general usefulness; an old soldier, who courageously and devotedly had served his country in positions of danger and difficulty; and a gentleman of honorable and courteous impulses, who preserved his ideals beyond the prime of life, who maintained his opinions against the trend of conventionality, and who carried the best intentions into all he undertook.

DR. FRANCIS J. YOUNG OF BRIDGEPORT.

BENJAMIN WALKER WHITE, M.D., BRIDGEPORT.

With sadness and deep sorrow the Connecticut Medical Society has been suddenly called upon to chronicle the death of one of its most prominent and widely known members. Dr. Young, besides being so widely known and generally beloved, was a valuable contributor to the prosperity and growth of the various Medical Associations to which he belonged.

He was born in Cornwall, Conn., in February, 1843. His natural and early fondness for the study of medicine led him to choose, as his life career, this profession for which he was particularly fitted and which he adorned up to the time of his death. He commenced his studies with Dr. Knight of Salisbury, Conn., at an early age, and, having acquired the foundation for a medical education, he soon entered the Medical Department of Yale College where he showed high proficiency until his course was interrupted by the breaking out of the war in which he enlisted in the month of August, 1862. He served with the Nineteenth Connecticut Volunteer Infantry, the Second Connecticut Heavy Artillery, and, after becoming a corporal, he was assigned to the medical department, and was finally discharged as Hospital Steward, July 17th, 1865.

Returning from his service in the army he resumed his studies at Yale and graduated from that place in 1866. He located in Riverton, Litchfield County, and there followed the practice of his profession for five or six years, and then removed to Bridgeport where he continued his labors as a physician of recognized skill and as one remarkable for his acuteness and rapidity in diagnosis, and the successful treatment of diseases.

Dr. Young possessed qualities but rarely found in the average physician. His always cheerful, sunny and hopeful nature which he exhibited in the sick-room and out, inspired those with

whom he had to deal, with courage and strength to take hold of life anew, even when health and prosperity seemed at their lowest ebb. To those in doubt, despondency or sorrow, his kindly and safe advice was always received with comfort and a confidence firm and assuring. His tender and warm-hearted spirit always manifested itself by being prepared at all times to aid anyone in trouble. Upon one occasion said he, to the writer, "When I began the practice of medicine I thought it my duty to be a philanthropist in my profession." He was noted for his fatherly feeling of interest in every worthy young physician about commencing the practice of medicine, and by his substantial support and unfailing counsel he guided many into paths of prosperity and lasting success.

The circumstances attending the Doctor's abrupt demise were, indeed, sad, especially to the members of the Bridgeport and Danbury Medical Societies, for it was at the annual banquet given by the latter Association, at the Turner House in Danbury, Conn., on the 4th of January, 1893, that his death occurred. He, with about a dozen of his Bridgeport friends, accepted the cordial invitation to be present at the banquet. While in the full enjoyment of the evening's celebration, and after the doctor had responded to his toast, which was selected as most fitting to his generous and warm-hearted nature,

> "Kindly and warm and tender,
> He nestled each childish palm
> So close to his own that his touch was a prayer,
> And his voice a blessed psalm,"

he was noticed to leave the banquet hall and start for his room.

He only succeeded in reaching the middle of the stairway, where he was found by Drs. Wilson and Dunham, some twenty or thirty minutes later, complaining of an intense pain in the left side.

The physicians tenderly assisted him to his room and proceeded to carry out his instructions in administering the remedy he had employed when suffering from similar attacks. Not feeling sufficiently relieved by the first dose he asked that a second hypodermic be given him, but before the injection could be pre-

pared he suddenly threw up his hands, closed his eyelids and fell back upon the bed—the pulsations of the heart ceased, a few stertorous respirations followed and he was dead.

This sudden going out of the life of one of the chief entertainers at the evening's pleasures shocked all present; for the doctor, himself, said to the physicians who were tendering him their services, that the attack was no more severe than he had formerly experienced.

By the death of Dr. Young the city of Bridgeport and County of Fairfield lose a most practical worker in the investigation of the causes of disease. So earnest and untiring were his labors in locating the origin of infection and preventing its spread, that his ability became recognized and he was appointed President of the Board of Health of the city of Bridgeport, and a member of the Board. At the time of his death he was also President of the Fairfield County Medical Association and the Bridgeport Medical Association.

The large attendance of mourning and sympathizing relatives and friends at his funeral was a just and fitting expression of the esteem in which he was held in the community. The solemn thought that his hands would minister no more to any material wants, seemed to pervade the mind of each individual present. The services were held in the South Congregational Church where the people thronged with tearful eyes to pay their last tributes to a good man, a brave, ingenious and skilful surgeon, and one, who by his generous and naturally warm-hearted and kind disposition, could truly be called the "beloved physician."

WILLIAM SHERIDAN TODD, A.M., M.D., RIDGEFIELD.

BY WILLIAM G. BROWNSON, A.M., M.D., NOROTON HEIGHTS.

Where one first sees the light, or where the eyes are closed for the long, last sleep, matters but little. Indeed, the locality in which we pursue our wouted activities,—the field of labor in which fortune or Providence has opened a way for the influence we may exert upon our fellows, are of minor importauce. The desire, so common to us all, for larger fields of influence, is too often a vain desire for worldly fame rather than an earnest wish for greater usefulness.

To be well equipped for the mission we are called to fulfil, to enter each day with enthusiasm into its necessary labors, and to be guided by conscieuce and a sense of duty, are the mainsprings of achievement aud usefulness in this life. Above all, "the spirit iu which we act is the highest matter."

In accordance with a time-honored custom we* gather to-day for retrospection and forecast, for mutual help and for mutual enjoyment, hoping to take with us from this meeting a higher aud clearer sense of our duties and responsibilities.

We are saddened to-day by the absence from this body of several who have been in the past among its most distinguished and honored members—Doctors Hungerford, Youug and Todd; each in the prime of life and in the height of his iufluence and usefuluess have been suddenly taken away since our last meeting. I have beeu asked by the Clerk of our Society to write a memorial sketch of one of these,—one with whom I was more or less intimately associated for more than twenty years.

Doctor Todd, after a very busy season of work during the inclement February weather, was taken suddenly and violently

* Read at the Annual Meeting of the Fairfield County Medical Association, April, 1893.

ill with that destructive disease, pleuro pneumonia, on the afternoon of February 15, 1893. From the moment of his attack his decline was steady and rapid until his death on the 19th, less than four and a half days from the attack. Complicated with incipient Bright's disease, his case was probably from the outset of a more hopeless character and the termination more speedy.

William Sheridan Todd began the practice of medicine in Ridgefield soon after his graduation from the College of Physicians and Surgeons in 1869, and soon after became a member of our Medical Society. His worthy ancestry, his studious habits in early life, his progressive career as student, as a successful teacher, and as graduate of the foremost collegiate and medical schools, furnished him ample preparation for his chosen life work. Naturally of a modest and retiring disposition, we find him at first in our meetings a quiet and attentive listener, eagerly catching and appropriating what was valuable in papers or discussions, conservative and cautious in advancing his own opinions. While his genial, kindly and social nature quickly endeared him to all his associates, the deep soundings of his warm and generous nature were known only by the few who were most intimately associated with him. His growth in the councils of the Society and in the estimation of his fellows was steady and upward. He was one of the most regular attendants of our Society meetings, held important positions on committees, gave sound opinions upon topics discussed, contributed several valuable papers to our medical literature, and worthily filled the office of President of the Society. Such, in brief, was his standing with us as a Society.

The immediate field of the physician's labors is the testing ground of his ability and worth. It is there that his real merit is most justly determined. Dr. Todd's reputation was best nearest his home and where he was most intimately known. My impression is that he made no claim to superiority in general surgery. His naturally sensitive and sympathetic temperament would make the use of the knife distasteful to him. His cautious disposition and high sense of responsibility made him careful and conservative in the use of medicines. His inclinations were not to what is often miscalled heroic treatment, nor to bold

or rash experimentation. He treated each patient, rich or poor, as he would a brother, sister, or child of his own. All knew and felt that his active sympathies accompanied his labors. A sense of duty rendered him too often, perhaps, forgetful of self. When told that he ought not to take so long a ride on such a night, his quiet reply, "I must," was final and closed all argument. Where there was danger he tarried long, saying but little, doing what he could, and studying and watching intently. Every critical or unusual case sent him to his well-furnished library, whose volumes and periodicals were for daily use rather than for ornament. By attendance at the meetings of the New York Academy of Medicine, of which he was a member, and of other medical societies and clubs, he kept himself in touch with the foremost thinkers in medicine and in literature. To the humblest of those who came under his care he gave the full benefit of his researches and opportunities.

But the man is greater than the physician. As a citizen Dr. Todd was public-spirited, broad-minded and enterprising. He loved his adopted town and was untiring in efforts to promote her interests. In his capacity as Representative in the State Legislature, as acting School Visitor, as member of church and society, and as editor for some time of the *Ridgefield Press*, he carried into each the same conscientious, Christian spirit, and the same fidelity to duty. His dignified, unassuming, gracious personality; his large heart and kindly nature; his sincerity, uprightness and loyalty, and his elevated Christian character, made him universally respected and beloved.

When death comes very near to us and almost without warning takes from us one we love, and our hearts sink under the crushing blow, then trite reflections on life and death seem but vanity and vexation of spirit. Generalities and personalities seem to our ears almost an impertinence. Courtesy and reverence demand but a simple tribute of affection.

Write an obituary of Dr. Todd? My confidante, my counsellor, my beloved friend? Proclaim the terrible truth that that good man walks the earth no more? that his loyal heart is stilled forever? that the eye which beamed only good will is closed in eternal sleep, and that the hands which grasped my own so warmly are folded—their task forever done? Shall I

bare my bruised heart and tell of its aching? Shall I moisten this page with my tears when I would fain weep in secret and silence? And yet gratitude and love and justice demand that I lay my tribute of affection on his coffin. While others are weaving a chaplet for his brow I would not withhold my humble offering.

As our friend met the dread messenger let us not believe he was appalled by the thought of life's blasted hopes, its purposes cut off, manhood's strong friendships rent, and sweet domestic ties sundered; but rather that he saw as in a vision that other country, where labor is without hardship, where service is appreciated and where effort is rewarded. "Let us think that his dying eyes read a mystic meaning which only the rapt and parting soul may know. Let us believe that in the silence of the receding world he heard the great waves breaking on a farther shore, and felt already on his brow the breath of the eternal morning."

DR. HENRY HUNGERFORD, M.D., STAMFORD.

BY AUGUSTUS M. HURLBUT, M.D., STAMFORD.

Dr. Henry Hungerford was born in Brooklyn, N. Y., February 8th, 1857. While very young his family removed to Connecticut and his studies previous to those especially connected with his medical education were prosecuted in Norwalk and New Haven. Having entered the College of Physicians and Surgeons in New York city he was graduated in medicine in the spring of 1880, being one of the high honor men of his class.

After serving as an interne in Bellevue Hospital he located in Stamford and began the practical work of his life. Here he applied himself to his profession with great vigor and steadily his practice grew during the rest of his life. He speedily was recognized both by the public and by his medical brethren as a man of far more than ordinary force and skill.

He was unremittingly tireless in the care of his patients and won and retained their confidence, love and esteem to a remarkable degree. His habits were studious and scholarly, and he kept himself well informed in regard to the progress of medical science. For years he served on the staff of the Hospital in Stamford, and in addition to the performance of many other duties did a great deal of charitable work among the poor of the town. He was a member of the New York Academy of Medicine, and kept up always a lively interest in medical matters.

In politics he was an enthusiastic Republican and actively engaged in promoting the success of the party, in whose principles he was a firm believer.

He served for some time as a Burgess in Stamford, and was able to give very material help in furthering many improvements needed in his chosen place of residence.

He was appointed Surgeon-General of this State by Governor

Morgan G. Bulkeley, and became an intimate and valued friend of the Governor. While holding this post of honor he took an active part in carrying out the plans for the hospital which has added so much to the usefulness of the Soldiers' Home at Noroton.

In 1889 Dr. Hungerford married Miss Esther W. Smith, the daughter of Walter M. Smith of Stamford. He was connected with St. Andrew's Protestant Episcopal Church in Stamford.

No man for a long time has been taken away from the community in which he lived whose death has caused such a feeling of loss and regret, not only among the large circle of friends and patients who knew him well and appreciated his good qualities, but also among the people at large, who recognized that a most useful and valuable citizen had been removed from their midst.

Absolute loyalty to his friends was one of his most marked and conspicuous good qualities, and abundant opportunities were afforded in which he exemplified this proof of sterling character.

To those of us who were very close to him his loss seems irreparable and thoughts of him will always call up regretful and tender memories.

ERNEST DWIGHT KIMBALL, M.D., SCOTLAND.

BY FRANK E. GUILD, M.D., WINDHAM.

In the death of Dr. Ernest D. Kimball, of Scotland, the people of Eastern Connecticut have lost not only a conscientious, painstaking and reliable young physician, but many of them will miss him as a personal friend as well.

Dr. Kimball was exceedingly well known in this section of Connecticut, and was endeared by many acts of kindness to scores of families, and respected as a man as well as a physician by all with whom he came in contact.

It is not known to all, but it is well worth recording, that he was essentially a self-made man, and had not enjoyed the almost limitless opportunities for training and education that have formed the foundation for the skill of many of our modern practitioners. Dr. Kimball at his death was in his twenty-ninth year, and had been in active practice a little more than six years. He studied medicine with Dr. D. L. Ross, and in payment for his medical training he cared for the Doctor's horses. He had been a pupil previously for several terms in a select private school, where, as in the office of Dr. Ross, his course was marked by hard study and patient, steady attention to his books. The boy was an indication of the man, and close attention to detail and the complete mastery of any subject presented was a characteristic that marked his whole life.

After a course in the College of Physicians and Surgeons in Baltimore, Md., the student was graduated as a full-fledged M D. in March, 1886, and immediately began practice in the section where his preceptor had been engaged, Dr. Ross removing to the West. This was in the Spring of 1886, and Dr. Kimball remained in Scotland until the Fall of 1891, when he removed to Manchester. He enjoyed a good practice there, and the manly and sterling qualities that had marked his life were beginning to be very widely recognized when, about a year later,

he was prostrated by an attack of typhoid fever and returned to Scotland, hoping and expecting that his health would be benefited. But soon after his arrival in Scotland he suffered a relapse, which in his weakened condition he could not withstand. The attack was marked by perforation of the bowels and peritonitis, and death ensued after an illness of six weeks. The energy and determination of the man continued to the very last, and he fought death with all the determination with which he had met other difficulties during life, but the strength was exhausted by the long struggle, following so soon after the first attack and before he had sufficiently recovered to be able to successfully combat the disease.

We who knew him have a double loss; we miss his sturdy, manly personality; we miss the friend, and we have lost an adviser and associate, always self-reliant, always helpful, always ready. His memory will long be with us and ever green.

EDWARD BURNS, M.D., OF NEW BRITAIN.

BY LAWRENCE M. CREMIN, M.D., NEW BRITAIN.

Edward Burns died Dec. 27, 1892, of phthisis pulmonalis, which he contracted while on duty in Mount Sinai Hospital, New York.

He was born in New Britain, Dec. 12th, 1860, and received his education in her public schools; was graduated from the High School in 1879. He began the study of medicine the same year in the Medical Department of the city of New York, from which he was graduated in 1882 with high honors, being one of the ten highest in a large class. During the Summer and Winter of 1882 he was assistant in the New York Hospital, and in 1883 was successful in a competitive examination for Mount Sinai Hospital in which institution he served the required term of eighteen months, receiving on the expiration of his services a testimonial for faithful and intelligent application to duty. As a physician he ranked high, beloved by his patients, honored and respected by his fellow practitioners.

APPENDIX.

ARGUMENTS OF

HON. CHARLES DUDLEY WARNER,

OF HARTFORD,

GEORGE L. PORTER, M.D.,

OF BRIDGEPORT,

AND

HON. CHARLES E. GROSS, Esq.,

OF HARTFORD,

BEFORE THE JUDICIARY COMMITTEE

OF THE

SENATE AND HOUSE OF REPRESENTATIVES OF THE STATE OF CONNECTICUT, IN BEHALF OF THE

MEDICAL PRACTICE ACT.

Printed in the Proceedings by vote of the Society at its Annual Meeting. [See p. 27.]

MEDICAL PRACTICE ACT.

Before the Judiciary Committee, while considering the Medical Practice Act, Mr. Charles Dudley Warner spoke as follows:—

Gentlemen,—I have not any testimony to give that is of any particular valne to this Committee on this Bill except that I have had attention of the regular practitioners and am still alive at my age. That goes for what it's worth. I have not advertised it anywhere. I am very glad of an opportunity to say a word abont this bill, which I do of my own motion entirely, having been very mnch interested I snppose for thirty years in the snbject, having written more or less about it, and having felt from year to year an increasing sense of shame that snch a civilized state as Connecticnt shonld occupy the position that it does; becanse there is nothing new in this bill. It merely pnts in practice in this state the practice of the whole civilized globe, of almost all the states with the exception of three or four in this Union. It is merely in line beside that of the whole tendency of the age, away from selfishness, and to look out for the helpless and those who cannot protect themselves. It is in line of those great achievements of science which have eliminated it from beinga matter as to medical practice of pure speculation, into some degree of certainty—not certainty, because that is not possible. It is in the line of all the great movements for protecting the health of the city, the sanitary movements. Talk abont popular rights and freedom! We are an organized society bonnd to one another by the most snbtle and innocent ties, and when an occupant of a tenement says that I have not as a citizen living in that city the right to inspect that and make it clean; that I have not the right if one of his children have the diphtheria to take public notice of that and require that he shall put himself into relation with human life about it! We all—none of ns are absolutely free. It is an impossibility and a dream

that never was true. We all submit to certain regulations in society.

Now, who is opposing this bill? What is the interest that is gathered here to oppose this bill? You know very well, gentlemen, I say it plainly, it is the interest which makes its living out of the superstition and ignorance of this country. I am not going into details. There are many admirable people, many of my friends, who do not believe as I do about this, but there is a large and increasing class all over the country who are distinctly quacks, who live simply by the credulity of an ignorant community. We all know them. We know who these practitioners are. We know their advertisements. We know what they do. Of course sometimes somebody is cured—lots of people are cured who don't have any physician of any kind. I don't know but more people are cured. I am not here to advocate the medical practitioners. I wouldn't employ them if I did not need to very badly, of course. But who are these people, and why do they come here? Why do they come to oppose a perfectly sanitary, rational, scientific and sensible bill like this, which is almost, as I say, of universal application in the civilized world? Because their business of course is affected by it. And why? Because if people are protected so that they cannot be imposed upon by those who are simply smart and not educated, of course their support is gone. Now, generally, are these people benefactors? Are they going about practicing for nothing among the poor? Do you see much of this? These people who in Boston and elsewhere make great fortunes, so great that they can afford to oppose any legislation that interferes with their business, do they spend time practicing among the poor and needy? I have only to state these things. They are all matters of public notoriety. [Mr. Warner in the above did not refer to Mr. Walker.]

And now who favors this bill? Well, I think the great, intelligent public favor it. I know the medical profession favor it, and why? Now, the medical profession in this country, gentlemen, is not a wealthy profession. There are a few wealthy men in large cities who get extraordinary fees for extraordinary services; but the great majority of the medical profession the country through as we know them, in a city like Hartford,

towns about here, in the State of Connecticut, are poor men, making only a small competence by their practice, and of all men of all classes that I know in the community, they do more for the service of humanity, unrequited, than anybody else, preachers included. They give more of their services without pay. There is not one of them, not a doctor in this room, that does not all the time practice for nothing and never thinks of charging. Is that the case with houses where you go with these little signs—fifty cents or a dollar for looking through a glass into a hole? Not at all. It is unnecessary for me to defend in that respect. I am not going to take up your time—merely want to put myself on record about this. And then I want to say one thing more; there is nothing in that bill against *anybody's* practicing medicine. Any mind cures, Christian scientists who have abandoned the Christian religion, any fakir from India, any Indian from some other place of this globe, any seventh son of a seventh son—there is nothing in that bill to prevent them practicing medicine in the State of Connecticut. Who is opposing this bill? Why, there is only this little condition about it. If you are going to hire a teacher in a public school you generally examine her to see if she can teach arithmetic and geography and writing—if she knows anything; but when you are going to permit a person to practice on the most costly and delicate organization known to us — that of the human body—how is that then? It is a much more important thing than teaching a district school, this practicing on this frame of mine. Now, is it not perfectly reasonable that anybody who is going to practice for pay on this frame of mine should know a little anatomy, should know about the circulation of the blood, should know, in short, as far as science can teach him and experiment and experience goes, the human body? And if he is going to administer remedies in the nature of medicines, that he should understand what those medicines are? In other words, that he should know something. Now, is it any hardship that a person who wants to practice mind cure, or to take up electric healing, or any sort of healing, known or unknown to the profession—is it any hardship on him that he should be also an intelligent person? Would it interfere with his practice that he should be an intelligent person;

that he should be able to pass an examination in the very fundamental things? You do not let a plumber go into your house unless he knows a little something about plumbing. As I say, we set up examinations here and there. We don't let people administer drugs unless they know something about drugs. Why is it that in this most vital thing, human life, we are so careless and so reckless of the poor and ignorant who cannot protect themselves? Why, gentlemen, it seems to me that there is no question about this matter, as long as it harms nobody, as long as it prevents nobody from practicing medicine who is able to pass an examination that would show that he was an intelligent human being in the profession that he chose, or if he did not choose to call it a profession, that he knew a little something about the region in which he was to experiment.

I hope the Committee will remember the honor, the dignity, the position of the State as an intelligent, civilized community, and leave us no longer under the reprobation we are in now. (Applause.)

SPEECH OF DR. G. L. PORTER.

Mr. Chairman and Gentlemen of the Judiciary Committee:

Some two weeks ago I received a circular with the heading, "National Constitntional League, Boston, Mass.," signed by J. Winfield Scott, in which it is stated that "we are told your presence and inflnence will aid the canse of medical liberty—come."

One of my earliest military experiences is associated with the stalwart soldier and beloved commander, General Winfield Scott, standing npon the steps of the National Capitol, where, in the early days of the War of the Rebellion, eqnipped with the fnll-dress nniform of the high military rank won by his brilliant campaign in Mexico, he was accnstomed to review the Northern regiments which had come to the defense of Washington, and together with them take the oath of loyalty to the Government. So the very name and its memories add weight to the reqnest. Fortnnate the society whose secretary, by act or name, summons before the mind's eye of veterans "Great Scott."

Jnst why I shonld have been selected by this secretary of the leagne I do not nnderstand, bnt I accept the flattering invitatation, for surely if any proposed law before your honorable committtee so infringes the constitntional liberty of the citizens of Connecticut as to awaken the alarm of the people of Boston, all members of onr own Commonwealth shonld come to her defense. If our newspapers are threatened by people outside the State with the withdrawal of the lucrative advertisements of patent medicines if they do not oppose the passage of this proposed law, it is high time that the constitntional rights of the editors shonld be protected.

Who constitute the National Constitutional Liberty League is not stated in the circnlar, bnt a principal contributor to the literature with which it is proposed to flood this Legislatnre is an itinerant doctor, who has probably taken ont of this State more

money than any other of the peregrinating medical practitioners who roam about the country; so the league may have some pecuniary interest in the defeat of the law as well as anxiety for our constitutional liberty. Furthermore, we are told that "eminently qualified attorneys have been secured at considerable expense." Such generous labors almost entitle us to know the names of our defenders.

What is the danger that confronts us? A medical law is proposed, requiring every person who comes as a medical practitioner into the State to satisfy a properly appointed board of professional gentlemen that by study and more or less experience he is qualified by a knowledge of anatomy, physiology, chemistry, botany, obstetrics, surgery, of the characteristics of different diseases, and of the operation of remedial agents, to take charge of a case of sickness. No specially developed expert ability is demanded, but simply some evidence that the claimant is not an impostor. Now every Medical Society claims such knowledge for its membership—every member claims it for himself. Theoretically, every person pretending to practice medicine by the use of the term "doctor" challenges the confidence of the community by this implied claim. I have yet to learn that the different schools of medicine believe or teach that there are different kinds of anatomy, or physiology, or chemistry, or botany, or obstetrics peculiar to their theories of medicine; that there are homeopathic or eclectic varieties of surgical injuries; that there are homeopathic or eclectic kinds of pneumonia, or diphtheria, or small-pox, or cholera, or liver complaints. So that if a young practitioner should come before any one of the boards of the three Medical Societies of this State, the questions would concern matters regarding which their belief is practically the same in seven of the eight departments of medicine in which he would be examined, and practically—as the results and methods of examinations would be open to public inspection—it would not make any difference before which board he might appear. There would remain the department of remedial agents applied to the cure of disease, and the proficiency of the candidate is to be passed upon by the board of that particular school of medicine before which he desires to appear. After examination he can practice as he may

pleasc. The position of the membership of each of the three Medical Societies would be improved because their Society would stand sponsor for their medical preparation. As it is now, any one can come into the State without credentials or professional preparation, claiming to be of any school, and by personal acts and professional ignorance disgrace the particular school and bring opprobrium upon the profession of medicine.

A case recently happened in Bridgeport where a man claiming to be an eclectic physician, by flagrant personal misconduct and by demonstrated medical incompetence, so aroused public opinion that newspaper articles drove him out of the city. Now I do not believe that he had any right to his claim that he belonged to that school, but the public had no knowledge that he was not a graduate of their colleges.

Those in favor of the bill are accused of unworthy motives but might it not be urged with greater reason that its opponents are actuated by the money which the irregular practitioners might secure if it is defeated. Is it reasonable to suppose that the dollars and cents sent, by this National Constitutional league, to influence the acts of the Legislature of Connecticut are expended solely to secure our so-called medical liberties, without expectation of some equivalent return to its membership and to the contributors to its fund? Nothing in the proposed bill prohibits any one in the state prescribing or administering medicine, laying on of hands, or exercising that gift of a sublimated sympathy which we have been told is the ground-work of Christian science, if it is not done, "for compensation, gain or reward, received or expected." But they might say they have a right to such compensation. Well then has not the state, the guardian of the health and life of its citizens, the duty to inquire into the capability of those who for gain would become responsible for the private or public welfare.?

The main objection to the proposed law is the claim that it interferes with the personal right of the citizen to receive medical treatment from any one he may select to take care of him when he is sick. The bill does nothing of the kind but does the state not have the right to interfere with personal acts? Here we are confronted with a condition and not a theory; for both the national government and the state of Connecticut say

by their enactments that in some instances for the public welfare they have such rights and that the right becomes a duty. The United States statutes, revised edition, 1875, Sec. 4,426, page 863, Sec. 4,438, page 865, enforce these rights and are now the law of the nation and of the commonwealth.

Sec. 4,426.—"The hull and boilers of every ferry-boat, canal-boat, yacht, or other small craft of light character, propelled by steam, shall be inspected under the provisions of this Title * * * * and no such vessel shall be navigated without a licensed engineer and a licensed pilot."

Sec. 4,438.—" * * It shall be unlawful to employ any person, or for any person to serve as a master, chief-mate, engineer, or pilot on any steamer, who is not licensed by the inspectors, and any one violating this section shall be liable to a penalty of one hundred dollars for each offense."

No individual or corporation can employ an engineer to take charge of a steam-engine upon any steam-vessel who has not been examined by a board appointed by the national authorities and been declared competent to perform the duties of his position. Will any intelligent person claim that the delicate and complicated organism of the human body is not far more intricate than the ingenious mechanism of the steam-engine and that if the nation requires technical knowledge of the engineer, it should not demand a similar knowledge of the physician to whom is entrusted the responsible care of the health of the community?

Again, the state has ordered, Statutes of Connecticut, 1888, Title 55, ch. 188, Sec. 3,121, that the druggist who compounds medicines shall pass a searching examination before a state board before he shall be allowed to put up a prescription and dispense the same.

Sec. 3,121.—" No person shall conduct, or keep a shop, store, or place of any kind, for retailing drugs, medicines, poisons, or such chemicals as are used in compounding medicines, or compound or *dispense prescriptions of a physician*, or vend medicines or poisons, unless he shall have been *licensed* therefor, as hereinafter provided. * * * "

Has any protest been made that this is an infringement of the personal right of the citizen to have whoever he likes put up his

medicine or has any lawyer appeared before your honorable body to claim that the constitutional liberty of the individual is thereby destroyed in the commonwealth? The state has the right and exercises it, to prescribe the qualifications and to become the sole authority in the appointment of those who shall compound medicines within its borders. Performing this important duty for the welfare of its citizens, has it not a similar duty, although to a far greater degree, to inquire into the qualifications of the physician who prescribes the medicines which are to be administered in a case of sickness, as well as to scrutinize the ability of the druggist whose duty consists in putting together the parts of the prescription?

The ablest opponents of medical practice acts have been the lawyers, and the circular of the league states that their opinions have been secured at considerable expense. It is to be hoped that such opinions are given in a Pickwickian sense. The bar of Connecticut exercises a right granted by the state which infringes the constitutional liberty of the citizen in precisely the same way, in which it is claimed this proposed law might do. No matter how able a man may be, how well versed in the law or familiar with legislative enactments, or how well fitted by experience or education, no citizen of this commonwealth can secure his services to prosecute a case of law in the courts until a board appointed by their own members shall have favorably passed upon his qualifications and received him into membership or extended to him the courtesy of the bar. Connecticut stat., Title 16, Sec. 784-785.

"The Superior Court may admit, and cause to be sworn as attorneys, such persons as are qualified therefor, agreeably to the rules established by the judges of said court; and *no other person than an attorney so admitted*, shall plead at the bar of any court of this state, except in his own cause; and said judges may establish rules, relative to the admission, qualifications, practice and removal of attorneys."

The science of medicine, like that of law, is based upon certain accepted principles. The art of the professions consists in the application of these principles to particular cases. These principles in medicine include anatomy, the action of the organs of the body in health, chemistry, botany, the changes produced

in the tissues of the body by different diseases, whereby they are classified, and a knowledge of the action of drugs. These principles have been evolved by the study and investigation and experience of physicians and scientists during the last four hundred years, and are now received and accepted by all educated medical men. In a similar way the science of law has been erected by legislative enactments and judicial decisions. The difference between physicians, or schools of medicine, which are simply a collection of physicians, lies in the application of these principles to individual cases. The difference between lawyers results from their varying opinions regarding the application of the laws to special cases. Every case in court exhibits these different legal opinions. The political parties of the country are created by the different interpretations of the spirit and application of the fundamental law of the land given by our great constitutional lawyers. It is small compliment to your judgment and common sense to attempt to impose upon you the sophistical argument that the enacted law regarding the legal profession and a similar proposed law regarding the medical, occupy a dissimilar position, because the doctors disagree regarding the application of remedial agents while lawyers are practically a unit. To even advance such a claim is worthy the humor of an Artemas Ward, or the nerve of a criminal lawyer, when for the last two years in this State legislative action within these very walls has been blocked by the inability of the highest legal talent of Connecticut to reconcile their different opinions regarding our laws, and even now your honorable bodies hesitate about paying the seventy-five thousand dollars which is claimed for these professional services. The proposed law does not confer as absolute power upon the medical profession as is now exercised under the law by the lawyers.

The opponents of the bill claim that the exercise of its provisions would trespass upon the rights of the individual; that its purport is hostile to the spirit of our institutions, and that its enactment would be illegal and its enforcement unconstitutional. Such a sweeping and dogmatic claim is best refuted by citing an existing law which has been upon the Statute Books and enforced without protest for many years. This single, indisputable fact unmasks the absurdity and foolishness of the claim.

That the State of Connecticut has the right to examine into the qualifications of medical men who are to take charge of the health of its citizens is not only claimed, but it is asserted that to a limited degree she has exercised and is now exercising that particular right and duty. Statutes of Conn., chap. 192, sec. 3177, ex. of Surgeons.

At the State encampment of the Connecticut National Guard the duties of the medical officers are in all particulars similar to those of a physician and surgeon in civil life. To illustrate their qualification for the performance of these professional duties the several brigade and regimental surgeons are examined by a Medical Board, and if their examination reveals their ability they are commissioned by the State. The duties of the regimental surgeons include the professional care of all cases of sickness, by whatever cause produced, and of injuries which may result from any special or general exposure during the military service. Their patients are men selected by careful examination from the able-bodied men of the State, and presumably are fully as capable of selecting their medical attendant as are any other members of the Commonwealth. If, then, the State has the right and without protest exercises it, of selecting from the seven or eight hundred medical men of Connecticut the eight or ten who shall have professional charge of its able-bodied soldiers, does not a much more responsible duty devolve upon it to protect from ignorant and shameless impostors its children and others who are necessarily dependent and deficient in judgment?

I have thus far spoken not as a peregrinating practitioner from England nor as a self-constituted sentinel on the watch towers of Boston, but in my capacity as a citizen of this Commonwealth, living among and with the people; and whatever concerns their welfare is not foreign to my own.

Now, Mr. Chairman, I desire to say a few words as a practitioner of medicine.

First, let me protest against the ignorant or malicious use of the term allopaths, as applied to the regular physicians to distinguish them from homeopaths and eclectics and other so-called "schools" founded upon special medical dogmas. Allopath was a term invented by Hahnemann to sharply differentiate his adopted doctrine that "like cures like." The application

was never honest and is less so to-day than ever. No doctor can apply it to the regulars without understanding its malicious significance, no one else unless speaking maliciously or ignorantly. And for this good reason, that as regular practitioners we are bound by no dogma of opposites as the term implies. On the contrary, we believe and teach that the practice of medicine is not to be limited to one or many dogmas. We use whatever has been proven by reliable experience to be beneficial. We employ as medical agents water, light and air, the berries and the fruits, the products of the plants and shrubs and trees, and the minerals from nature's own laboratory. We strive to adopt, where applicable, every philosophical discovery and every mechanical invention. We attempt to take advantage of climatic, atmospheric and telluric influences. We enforce the principles of mental, moral and physical hygiene. In short our belief and practice enjoins upon every regular doctor the employment of any and all means which will contribute to the welfare of the patient committed to his care. To call such practitioners allopaths is a confession of ignorance of the meaning of the word or an act of malice.

That our judgment is infallible none claim. In cases of emergency when the practitioner is overworked, fatigued with protracted labors and loss of sleep, anxious with the responsibility of critical cases, when upon the decision of the minute, without consultation with books or associates, must depend the most momentuous results, that mistakes may naturally happen is not denied, but the remedy does not lie in the neglect of the proper preliminary medical education.

I was unable to listen to the stirring speech of Mr. Barbour, but the tenor of the remarks and the distribution of the applause at your last hearing attempted to show that in proportion to the education and training in medicine a man had acquired the less fitted he would be to perform the duties of his profession; that the mistakes of the individual doctor were the common practice of all; that in the incantations, enchantments and astral bodies—according to the lucid explanation of the erudite Mr. Wheeler—of the faith curist, the Christian scientist, the astrologer and the clairvoyant was enshrined the prospect of recovery of those who were desperately sick, and the only hope of

rescue for those—such as the learned gentlemen instanced—who were so close to death's door that their friends were arranging for their funeral. Statements of remarkable cases—miracles some of them were styled—were presented for your consideration, wherein the regular practitioner was ridiculed and denounced, the irregular crowned with the laurel wreath of glory and success. Are such statements influential with your honorable body? Do not advertisements and circulars of every quack medicine in the land spawn stories of cases far more wonderful than any to which you then listened? It is human nature to consider your own sickness a little more severe than that of any one else, and if it be dangerous, to conclude, or be told, that you were not expected to recover. The statement may have been a correct one. The profession could flood you with such useless papers—useless because as men of common sense you understand that without the knowledge of attending circumstances they have little weight as evidence.

Early in the war the army of Gen. Banks was encamped at Strasburgh, Virginia. Late one Saturday night a flank movement of the Confederates compelled a retreat. A large field hospital at Strasburgh of over three hundred beds—in which there was a daily average of from a half-dozen to a dozen deaths—was disbanded. The patients who could bear transportation were sent in ambulances to Winchester, and the hopelessly sick—thirty-five in number—we laid on straw in a little village church. Two crippled soldiers were left as nurses and I was placed in charge. The army moved to the north and we were abandoned to the tender mercies of the rebel community. By Sunday noon Ashby's regiment of Virginia cavalry occupied the town and captured the hospital—the Confederate surgeon pronounced the men all desperately sick—one had died during the morning—and forbade their removal. Col. Ashby continued me in charge—the first instance in the war where a northern surgeon was left in command of a hospital after its capture by the Confederates. All the men were paroled in order to release a like number of rebel prisoners and we were commended to the tender graces of the Virginia villagers I was just out of the medical college, had passed my examination before the army medical board, had been ten days in the service when I became

commandant, quartermaster, commissary, surgeon, doctor, nurse and assistant cook, with my thirty-four sufferers from typhoid fever, camp diarrhea and diphtheria, in that chamber of horrors. I labored for them assiduously. When I thought they needed drugs they got them in regular doses. By day and by night I was at their call. I slept in the pulpit. They lay in the pews. That congregation was in constant session. To the honor of that Virginia community, our supply of milk, eggs and firewood was never exhausted. When the place was recaptured by Gen. Fremont, three weeks later, every one of the thirty-four sick men was sent to his home in the North. Not a death had occurred after the first day. Every one of those sick men believed that they had been left to die by their own surgeons, and declared hopelessly ill by the Confederate doctors, and would have willingly given me certificates that their marvelous recovery was alone due to my system of treatment, but, gentlemen of the committee, I have too much respect for your good sense to attempt to ignore the fact that the excitement of their transfer, the transition from the despair of their abandonment among supposed enemies to the realization that they were kindly treated and would soon return to their relatives and homes, the quiet of their secluded position, their hygienic surroundings and their freedom from the sight of the daily procession of the dead, were important contributory elements to their recovery. Excuse this personal reminiscence. It is introduced to show what an avalanche of such certificates might be precipitated upon you by the hundreds of practitioners throughout the state, if a young doctor, as the result of his first month of practice, could launch thirty-four.

A principal objection in one of the legal addresses last Tuesday was the claim that our irregular brothers and sisters in practice were too old, or were too much occupied in perfecting experimental electrical machines, in deciding upon the tones and shades of their blue and red and yellow glass arrangements, in impinging their spiritual or ethereal or astral bodies upon the impaired lungs and heart and brains and bowels of their credulous patients, to be expected to attempt to learn anything of those departments of medicine which experience and common sense have shown to be necessary to intelligent practice. Shame on

such nonsense. If the fool-killer should once get loose in Connecticut he would not be entirely occupied with college graduates. Has it come to this that you, as representatives of the intelligence of Connecticut, are expected to place a premium in medicine, on ignorance of its fundamental principles; to practically declare that in dealing with the changes wrought by disease in the structures of the body there is no necessity to have a knowledge of the composition and relations of the bones, muscles, blood-vessels, nerves and organs of that divinely constructed mechanism, far surpassing in delicacy and beauty and adaptability all achievements of human cunning and ingenuity, created by the hand of the Almighty, made in His own image, and pronounced by Him to be good? With good reason might Shakespeare cause Hamlet to exclaim: "What a piece of work is man! How noble in reason! How infinite in faculties! In form and meaning how express and admirable! In action how like an angel! In apprehension how like a God!"

In the profession of law the questions concern property and the relations of man to man; in that of theology, the minister may point the way, yet man, for his own salvation, must personally commune with his maker; but in that of medicine the doctor must assume far more solemn and responsible duties, for to his knowledge and judgment are entrusted the care of a human life—that divine essence which no man can define—a gift of God, which once lost is never regained.

One of the Hartford lawyers assumes that in the suits for malpractice the victims would have sufficient protection in the law against malpractice. The sufferings and death of unfortunate women loving not wisely but too well, the slaughter of unborn babes, deprived of the joys of life and the hope of eternity by the abortionists throughout the State, are unheeded or ignored. What redress can be made to the dead for the life ignorantly or intentionally taken? Once put out the lamp of life I know what Promethean spark can it relume.

An educated physician to the performance of his duties in a greater or less degree brings the concentrated knowledge and experience of many generations of learned men; the charlatan and the quack, reviving the exploded humbugs of the past, experiment with fallacious medicaments upon the human organ-

ism, of whose structure and functions, with brazen indifference, they acknowledge and demonstrate their ignorance.

The ancients had a saying "that every one is brave until the danger comes." If at this moment from yonder corner in the gallery a file of soldiers or a group of anarchists should by a volley of musketry seriously wound every person in the sixth row of seats, would the intelligence of this assembly tamely listen while some enthusiast suggested they should wait until an electrical expert had found out whether an interrupted or constant current might not sometimes be beneficial in such cases, or while some visionary recommended that locks of the hair of the victims should be sent to the clairvoyants to have revealed the proper line of treatment; or some esthetic urge that by the exercise of the magical sympathy of a man or a woman truly good the bullets should be extracted; or a Hartford theosophist assume responsibility for the claim that in some occult way the spiritual, or ethereal, or astral body, assuming the outward form and spirit, but not the material substance, of a Christian scientist, would float out into space, and from the sweet and unbroken surface and the healthy organs of the operator's material body bind up and heal the torn tissues of the wounded; or some credulous Connecticut metaphysician and sophist extol the ability and guarantee the probable success of the faith-curist, who, by the laying on of hands and guiding the thoughts of "the sufferers, should convince them that all they have got to do to get well is to think that they are well," and the gaping wounds, the flow of blood, the pain of the poor bruised and torn tissues of the body, the physical and mental shock, are "solely the creation of a supersensitive imagination?" Who would follow such leaders even if they were honest in their superstitious advice? Would not both the victim, of whatever previous belief, and the onlooker as well, demand that a doctor, who had inclination and time to acquire some knowledge of the structure of the body, of the relation of its organs, of the recognized relief for such injuries, of its probable results, should assume charge of each case and become responsible for the treatment? This example is a type in greater or less degree of every surgical and medical case.

To whom would any community of this State look for assist-

ance if an epidemic of small-pox, of cholera, of typhus fever, should rage in their midst if not to its educated physicians? If it had not been for their heroism and devotion among the dangers and horrors of the hospitals for epidemic diseases, what protection would the country have had last year from the scourge of cholera and typhus fever; what hope of escape from the danger that threatens us in the coming season?

The statements made here this afternoon regarding the mistakes and ignorance of doctors will have the weight which attaches to any *ex parte* assertions unsupported by corroborating evidence; but for the sake of the argument, allowing every statement to have some basis in fact, although a knowledge of all the circumstances might entirely change its character, are not they all strong arguments why our citizens should be in the future protected from a repetition of such dangers? And how can such protection be better provided than by a public and official examination into the mental and professional qualifications of those who practice medicine among us? The objective point of attack seems to be the regular profession, as if its members would be particularly benefitted by this law, but how has not been mentioned. If it is insinuated by an increase of practice, certainly only in proportion with homeopaths and eclectics. But no account is taken of the fact within the experience of many medical men, that after the advent and disappearance of the peripatetic quacks the general business of the profession is markedly increased. In its pecuniary aspect the itinerant physician is an expensive experience to a community; to the development of an increased sick list he is a pronounced success. The proposed law will benefit the doctors only as it will benefit the whole community by securing the services of educated and properly prepared medical men and by advancing the standard of medical attainments will stimulate the worthy physician to more completely prepare himself for the responsibility of his high position. In the long run the public opinion of a community will become responsible for the professional attainments of its practitioners—if it is satisfied to commit the medical care of its men and women and children to the experiments of ignorant impostors it must abide the results—if it demands the services of educated physicians, it may enjoy the benefits of such a choice.

Connecticut lags behind her sister states in protecting her citizens from the inroads of charlatans and quacks—driven out by their ignorance from other states, they find the field of operation restricted in the East to Connecticut, Massachusetts and Rhode Island, and by their alluring, but lying advertisements, promising speedy and sure cure for the most fatal maladies which afflict mankind, deceive and rob the poor and ignorant. For protection of these victims—for in a civilized community injury to any class of its citizens affects them all; for the improvement of a profession that in times of public danger has not withheld personal exposure nor declined the gravest responsibilities; for the execution of that obligation which you have severally assumed to provide for the welfare of the commonwealth of Connecticut, I hope for a favorable consideration of this law. We claim that the lack of the protection such a law would afford inflicts injury upon the poor and ignorant, and especially the children, within the state.

Says Prof. Sumner: "Every honest citizen of a free state owes it to himself, to the community, and especially to those who are at once weak and wronged, to go to their assistance and to help redress their wrongs. Whenever a law or social arrangement acts so as to injure any one and that one the humblest, then there is a duty on those who are stronger, or who know better, to demand and fight for redress and correction."

The republic bestowing liberty upon the citizen demands a personal service. Conferring upon you the responsible duty of creating the laws, it expects protection for its citizens and wise supervision of the health and welfare of the commonwealth.

MR. GROSS' CLOSING ARGUMENT IN ADVOCACY OF THE BILL.

Mr. Senator and Gentlemen of the Judiciary Committee:

I am under much embarrassment at this hour in the evening to know what to do. I recognize that you have listened with great patience and courtesy. I do not want to trespass upon either and yet I have a duty to perform. I am not asking of you anything more than of myself, giving time to a measure of this character which by reason of its importance to the people of this state I believe needs and deserves careful attention and consideration.

THE ABLE COMMITTEE.

Through this whole hearing, Mr. Chairman, I have congratulated myself that I was before the judiciary committee of this Legislature. As long as we have had legislatures, it has always been considered one of the highest honors to be a member of the judiciary committee. Men are put there by reason of their intelligence, their education, their ability, that they may distinguish between sophistry and argument. Before such a committee I never fear that brilliancy of wit, however pleasing, will mislead. I never fear, sir, that before such a committee, abuse and sarcasm, no matter how severe or well paid for, will ever be convincing. (Applause.)

THE BILL'S CONSTITUTIONALITY NOT QUESTIONED.

Two years ago, sir, the State Medical Society of this state undertook what seemed to them and seemed to others, by reason of past experience, almost a Herculean effort. It was the desire of that society and every member thereof, that this glorious state of Connecticut should be brought into line with thirty-eight other states which had preceded it in the line of medical education. It was necessary to have a bill drafted. They knew, we all knew, that in some states efforts in this line had been

found objectionable to the courts by reason of sundry provisions therein. It became necessary, therefore, to find a person to draft a bill that should come in harmony with those decisions, that when we came before this committee and this Legislature, we should not be met with argument of counsel backed up by the decisions in other states that the bill was unconstitutional in its provisions. Unfortunately perhaps for them, the lot fell to me to draft that bill. I feel, sir, that one of the greatest compliments has been paid me, that when gentlemen of my own profession have come before you, not a single one has said that this law was in its terms unconstitutional. My brother Walker has distinctly stated to you and has distinctly stated over his signature in print, that after a most careful examination of it he is satisfied that it is constitutional. So far, so far, Mr. Chairman, one point has been gained. There has been no claim by any member of the profession whether paid or not paid, no one has come here and has claimed that this bill which I had the honor of drafting is in any one of its terms unconstitutional.

ORIGIN OF THE BILL.

I shall endeavor briefly to answer some of the objections and I shall try to answer all of the objections that have been raised, to this bill. My brother Barbour in opening his arguments the other day, said, "Mr. Chairman, who is back of this bill? The doctors. Is any one else? No. No one but the doctors come here to ask for this measure and they only ask it for the purpose of establishing a medical monopoly." Now, Mr. Chairman and gentlemen, you are acquainted, many of you, with the gentlemen that have been here before you to testify as to the need and necessity of having a bill of this character. Have they come before you for gain? Have they come here for pay? Why, Mr. Chairman, where *should* such a bill originate except in the ranks of the profession which it is sought to purify and elevate. (Applause.) When, sir, the other day, a most nefarious insurance measure was being argued in these halls, who came to show up that iniquity? Did we send to Boston? Did we send to New York? Did we send anywhere else out of the state? No, sir. We went to the men who knew whereof they spoke, and were

educated in the lines of insurance law and insurance legislation. When, sir, in months past it has been necessary to purify the profession to which most of you, gentlemen, and I, have the honor of belonging, in your county, Mr. Chairman, in my county, and in other counties of the state, who has instituted such proceedings? Have we gone to Boston to get some one down here to institute such proceedings? Have we gone to New Jersey to bring up a man to testify as to the matter? No, sir. There have been in the lines of our profession men of honor enough who desired integrity to be maintained, who, however unpleasant it was, came forward and showed the necessity of action. So, sir, it was right and proper that this bill should originate in, and be advocated by, the members of the medical profession. Now, sir, what was done? Did the State Medical Society, which is called the old school, did they try alone to originate a bill and come here and try and put it through on their own strength? No, sir. Not this bill, but a general skeleton of what this state needed was drafted and the State Homeopathic Society was written to and requested to send a committee to discuss the matters and confer thereon, and the very same mail carried a similar request to the State Eclectic Medical Society of this state. Did they come? Certainly, they all came, and at every meeting but one, those three societies were represented by members of their sub-committees. Now my Brother Barbour says, "Who is back of this bill—only the doctors. And they only for their own personal gain." Mr. Chairman, do you believe for a moment that Professor Carmalt would leave his duties and come up here and give his time, or Professor Smith or Dr. Adams of New Haven, or Dr. Wilson of Meriden, the mayor of that city, or Dr. Porter, whose eloquence we have listened to to-day, and Dr. Cleavland and Dr. Newton, and in fact all the other physicians, numberless almost, do you believe that they have come here for personal gain and not simply in the interest of humanity? Do you believe that in this matter they have been actuated by a desire for pecuniary gain? Even the thought dishonors them and dishonors us. No, sir. They are not the men who could profit by this bill even if it was in every word such as my Brother Barbour has claimed for it. In that connection as Brother Barbour asked that question (and I am very sorry Brother Barbour has

gone home) I wanted to ask him who was back of the defense of this bill. I wanted to ask him who originated the defense and the opposition; who it was that got those remonstrances circulated; who it was that sent out invitations that have filled these seats as we have seen them filled. I wanted him here that he might point to the gentleman that sat at his right hand and who sits here to-night.

MEDICAL LIBERTY.

But in Brother Barbour's absence allow me to show you, Mr. Chairman and gentlemen, who originated this defense, for while Brother Barbour is gone, his client remains, and it is not unprofessional for me to refer to it. Before the first hearing, Mr. Chairman, a circular was sent broadcast through this State in certain lines of medical practice. It is headed: "Publishers and Distributors of Medical Liberty Literature, Boston, Mass., '93. Dear Friend of Freedom:—I am reliably informed that a monstrous medical law is likely to be enacted by your Legislature." We are thankful, Mr. Chairman, for that information, for if any man in the sound of my voice knows whereof he speaks, there sits the man who dictated that, and he knows when he wrote this certainly he believed it would pass. If he does not, to-day he knows why. I can only guess. Let me continue the circular:

NATIONAL CONSTITUTIONAL LIBERTY LEAGUE,
INCORPORATED, OCTOBER 30, 1888.
BOSTON, MASS.

PUBLISHERS AND DISTRIBUTORS OF
MEDICAL LIBERTY LITERATURE.
BOSTON, Mass., '93.

Dear Friend of Freedom:

I am reliably informed that a monstrous medical law is likely to be enacted by your Legislature.

"Forewarned is forearmed." We beseech you to bestir yourself instantly and incessantly in behalf of constitutional liberty, until this medical monopoly measure is overwhelmingly defeated by a righteously indignant populace. If you would profit by our years of successful experience, and desire our co-operation, begin the circulation of the accompanying remonstrance forthwith. When you have secured from one to five hundred influ-

ential siguatures, with addresses aud occupatiou, copy the addresses complete aud seud to us. Then mail the remonstrauce to your Representative or Senator.

Equipped with our league literature, the majority of them could, and would (with secret exultation), defeat the proposed medical bill with neatness aud dispatch. Therefore it is of the utmost importance that your Seuator aud Representatives be thus immediately supplied with the medical liberty literature described by the euclosed circular.

Kiudly keep us constantly advised of what you are doiug and the progress of the bill.

Yours for constitutional liberty,

J. Winfield Scott, Sec'y.

I should add that iu the circular the price of this medical literature is given, so that the parties may know how much they have to pay for it for the purpose of the benefit of these Boston people.

Mr. Walker—Have you iu your possession any fact which shows that the gentleman who lives in Boston to whom you refer has any pecuuiary iuterest in the defeat of this bill?

Mr. Gross—I will leave it to you, Brother Walker, to judge when I get through. (Laughter.)

Then follows au iuvitatiou from this same J. Winfield Scott, which I will read:

AN INVITATION.

P. S.—Since dictating this letter we have suggested, and influeutial citizens secured, the postpouement of the hearing until Wednesday, March 8th, in the Superior Court room.

It is of the utmost importance that citizens who have been cured by other than "regular" M. D.'s attend the hearing and testify regarding their treatment.

It is equally importaut that those who would maintaiu their constitutional liberty of choice of physician or healer personally appear to siguify their determiuation to defend this iuherent aud iualienable right.

We earnestly hope that you will attend, aud persuade as many others as possible to go, thus by your presence casting

your personal, moral influence in behalf of freedom and justice. Write us at once at Hartford, Conn., if you can come, and tell us how large a delegation you can probably muster. As you value your medical liberty, we beseech you not to neglect the important duties outlined herein. Remember that health and happiness, and human life, depend upon the defeat of this medically monopolistic measure. Dare to do your duty.

J. W. S.

A THUNDERBOLT OF CAPTIVATING ELOQUENCE AND SUBLIME ORATORY.

(*In Press.*)

Mr. Joseph L. Barbour's unanswerable argument, March 8,1893, against medical legislation, before the Legislative Judiciary committee of Connecticut, was a matchless masterpiece. It rightfully elicited round after round of irrepressible applause. The widespread distribution of this powerful, persuasive plea for the people will kill the bill and endear their champion to the hearts of every medical liberty-loving citizen.

Every legislator, and every citizen whose influence is desirable at the State House, should be supplied. Regular retail price, 25 cents.

Procure and distribute all you can, and persuade every one else to do likewise.

THE NATIONAL CONSTITUTIONAL LIBERTY LEAGUE, BOSTON, MASS.

Then follows another, which was sent out after our first hearing, also from Boston, Mass.:

Doctor :—One more word of warning!

If you were as familiar as I am, after years of court and legislative experience in nearly every State, with the cunningly devised tricks and traps of allopaths to ensnare and subjugate homeopaths and eclectics, I believe you would look before you leap into the ingenious and iniquitous snare set by the Connecticut medical bill.

Are you ready for this?

If not, and you can't come to the hearing March 21st to protest, write us at once (at 152 Allyn street, Hartford, Conn.) a

letter denouncing the medical bill, and I will have it read before the committee.

Also write your members of the Legislature forthwith that you hope they will oppose the bill by voice and vote.

Sincerely yours for constitutional liberty,

J. Winfield Scott, Secretary.

Next came this:

AN OPEN LETTER.

Dear Devotee of Constitutional Liberty:

The quarrel of the M. D.'s before the Judiciary committee at Hartford, Wednesday, March 8th, wastefully consumed all the time, save that so admirably improved by the spleudid speech of Joseph L. Barbour in behalf of medical liberty. The people themselves are to be heard by the same committee, Tuesday afternoon, March 21st.

We are told your presence and influence will aid the cause of medical liberty. Come.

In the meantime it is of the utmost importance that remonstrances be immediately circulated and extensively signed by influential citizens, and promptly placed in the hands of local representatives and Senators, together with our $1.00 package of medical liberty literature.

We earnestly hope that you will attend and persuade as many others as possible to go, thus by your presence casting your personal moral influence in behalf of freedom and justice. As you value your medical liberty, we beseech you not to neglect the important duties outlined herein. Remember that health and happiness and human life depend upon the defeat of this medically monopolistic measure. Dare to do your duty.

J. Winfield Scott, Secretary.

P. S. After the hearing a decidedly necessary and important conference to consider

WHAT TO DO NEXT

has been called to meet at 152 Allyn street at 7:30 sharp. Every so-called "irregular" practitioner should arrange to at-

tend and help devise further plans for the defeat of the bill and for future protection should it pass.

J. W S.

Now coming down a little later:

PUBLISHERS AND DISTRIBUTORS OF
MEDICAL LIBERTY LITERATURE,
BOSTON, MASS, 1893.

Dear Co-Worker:

At the hearing at Hartford, March 21, the quacks who are clamoring for "protection" accused the so-called irregulars of malpractice, and the hearing was adjourned to afford them an opportunity to prove it.

It is evident this battle must be carried through the Senate and House. The doctors are, and have been, lobbying the Legislature for some time.

Tuesday evening's conference, to consider what to do next, adjourned to meet Monday evening, March 27, at 7:45 o'clock, with Mr. Patterson, Room 22, "the Goodwin."

Every progressive practitioner is vitally concerned, and should attend without fail.

Address until further notice,

J. WINFIELD SCOTT, Secretary,
152 Allyn Street, Hartford, Conn.

The last circular is as follows:

NATIONAL CONSTITUTIONAL LIBERTY LEAGUE,
INCORPORATED OCTOBER 30, 1888.
BOSTON, MASS.
PROF. J. RHODES BUCHANAN, M.D., President.
J. WINFIELD SCOTT, 383 WASHINGTON ST., BOSTON, MASS., Secretary.

BOSTON, MASS., 1893.

Dear Devotee of Constitutional Liberty:

The next page explains the origin and utility of "Allopathic Czar Parties." They are potent and popular educational entertainments—admirable first steps towards a Local Liberty League—leading to a Chatauqua-like course of studious reading. We appeal to you to send stamps for one or more copies of "Allopathic Czars," and invite a score of neighbors in to enjoy the

fun. At the close, when everyone is in a rollicking good humor and full of enthusiasm, appoint another meeting and take a five or ten cent collection for our entire League Library; price only $1—less than cost.

Hoping to hear favorably and frequently from you, we remain yours for health, humanity and constitutional liberty.

Earnestly yours,

J. Winfield Scott, Secretary.

Now, Mr. Chairman, if we turn over this first page of this circular we find four or five pages advertising one R. C. Flower of Boston, and the last page advertising the Medical Liberty Literature. Mr. Chairman, I now desire to read an advertisement from the Hartford *Post* of Saturday, March 25, 1893.

Mr. Gross here read a long advertisment of "Dr." Flower, stating that he would be at New Haven March 27, Danbury, March 28, and at Hartford March 29.

WHO ARE BACK OF THE OPPOSITION.

Mr. Chairman, I have read these circulars and advertisements to show you who are the principal parties back of the opposition and their object. As all roads were said to lead to Rome, so all this opposition is traced to and shown to have been instigated—and pushed by this one man from Boston. Further comment on that fact before this honorable and intelligent committee is unnecessary.

Connecticut Legislatures and Connecticut men can still protect its citizens in all matters of legislation—without the aid for pecuniary gain of "lovers of liberty," from Boston.

So much, Mr. Chairman, I wanted to say more—as to the character and standing of the men who come here in advocacy of this measure as criticised by Brother Barbour. He said a few moments ago, that when I got through I would not have any of the satisfaction of having any compensation or, as he thought, a just cause. He may have the pecuniary compensation for his work. I shall have the other compensation to which he referred.

THE INSINCERITY OF OPPOSITION.

Mr. Chairman, it is my duty to call your attention to the in-

sincerity of the special defenses that have been put in as against this bill. How men of such intelligence as my Brother Walker, how a person of such intelligence as the lady who came here this afternoon and read to us her paper, can say that they have read the bill, and that its provisions are as claimed by them, is past my comprehension. You are to be the judges, but I desire to call your attention to the points briefly, remembering that the time is passing fast.

First—This bill, Mr. Chairman, asks for three distinct reliefs. First, sir, it asks for a repeal of sections 3,006 and 3,007 as they stand upon our statute books to-day. Not a word has been said by any one against the repeal of those sections. In my opening argument, I called your attention to the fact that Connecticut stands alone of all the states in the Union, and offers a prize to quacks. They can come here and practice as much as they like, and the only restriction upon them is that they are obliged to pay twenty dollars per day for their license. Repeal those statutes, Mr. Chairman, repeal those statutes, and we shall have no more advance agents before the Legislature of Connecticut nor any such advertisements in our papers like the one I have read to you. Repeal those statutes, I ask, in the interest of morality and humanity. It is not necessary for me before such intelligent men, to do more than to call your attention to those two sections of the statute, and as not a word has been said against the repeal, I ask you, sir, in the name of the medical fraternity whom I have the honor of representing here, that you will blot those sections out from our statute books and let them no longer stand as a disgrace to this community. (Applause.)

Second—The bill also asks, Mr. Chairman, for registration. Not a word has been said against registration, except by Brother Barbour the other day. Let me read from his speech. In my opening argument I asked for registration on the ground that every state almost in the Union had at least registration. I asked for it for reasons that I then gave. It is unnecessary for me to repeat them as no one has opposed this part of our bill except Brother Barbour. As quoted in the paper, and as I think correctly quoted, he said, " Mr. Gross wants to know whether the practitioner whom he calls in is a doctor or not. If I (Bar-

bour) am ill, I want to be cured and I just as lief be cured by an irregular as by a regular." I am very glad, Mr. Chairman, that upon reading that speech, after it was in cold type, Brother Barbour found that his retainer didn't cover that, and he comes here to-day and says distinctly and frankly that he has no objection to registration. Now no one else has opposed registration. Not a single person and therefore, whatever you do with the bill, whether, as Mr. Winfield Scott says, it is going to pass this Legislature, or not, whether he is correct or not, I ask you gentlemen in aid of our sanitary laws, and all of our other laws as they stand to-day as connected with that medical profession, to give us full registration, and that, sir, saves Sections 1, 2, 4, 9, 11, 12 and 13 of the bill, for those provide only for registration.

The third object of the bill is this: We ask that there shall be medical education as a pre-requisite to medical practice. I referred the other day to the fact that out of all of the states of the Union there were only five that have not come to the point of requiring medical education as a pre-requisite to medical practice. There are to-day, sir, only five—Tennessee, Maryland, Massachusetts, Rhode Island and Connecticut, and I have obtained a printed volume or abstract of the laws of the different states showing that that is the fact. I thought it might be desirable that you gentlemen should have the opportunity (presenting to the committee) of examining such statute and you will see upon examination, first: That with the exception of the five states named, and with the exception of two territories, one of which is Alaska, medical education is required as a ground or pre-requisite for medical practice. After our former hearing, an editorial appeared in one of the New York daily papers, and as it is sometimes advisable to see ourselves as others see us, I will read from the editorial as follows:

"Connecticut has lagged behind the times in protecting its people from the 'irregular' practitioner of medicine, so that his tribe has become strong enough to make a stubborn opposition to the bill recently introduced in the Legislature to register educated physicians who have shown themselves qualified to practice to the satisfaction of an examining board. Similar legislation is in operation in all but a very few of the states, and the lack

of it in Connecticut has made that state an asylum for quacks and 'healers' of all degrees."

QUESTION OF NATURAL RIGHT.

Dr. Lindsley stated to your committee at the first hearing that as he looked over this room he was satisfied that the fact was, as I had stated it, that at least thirty-eight states had medical practice bills, and that all of their qnacks had been dnmped into Connecticut. Mr. Chairman, the principal objection which I have heard raised to medical edncation as a pre-reqnisite to medical practice, is that this bill which requires it is an infringement on the natural right of man. Before yon, gentlemen, it is nnnecessary for me to go into that question at all. We all know that every law which is passed under the police power of the state is an infraction of that same natural liberty to which the gentleman referred. We are not living to-day in a state of barbarism, bnt nnder a government, and that government reqnires and needs, and has the right to protect its people even though it may be at times by the trespass (if you may call it so) upon what is called the natural rights of man.

Doctor Porter has referred to some of these cases, for instance, contagious diseases in a man's own honse. The State has the right to enter in, and take charge of that case, and if need be to take the patient to the pest-house or hospital, and the individual right is thereby trespassed npon jnst the same as by this bill. There are a thousand and one ways in which the State steps in for the protection of the people and requires the man to snspend or to give up temporarily that same "constitntional right" that this Boston literatnre speaks of—a constitutional right in the sense of natnral right. It is unnecessary for me to say anything more. This law is drafted, and is constitntional, as it comes nnder the police power of the State, which is supreme even over the laws of the United States, as it is a right reserved in the people, and has been so held repeatedly by the Supreme court of the United States.

THE ART OF HEALING PROTECTED.

I desire to call your attention right here to one thing—if you will examine the laws of the different States as codified or ab-

stracted in that volume which I have given you, you will find that in no State of the Union is the art of healing so fully recognized as separate from the practice of medicine as in this proposed bill. This bill does recognize the art of healing. Why believers in such healing should come and oppose the passage of this bill is a mystery to me, or would have been had it not been for these circulars which I have read. Nowhere, in no law in any State, is the art of healing as distinct from the practice of medicine, recognized to the extent that it is in this bill.

THE "FOR HIRE" PROVISION.

My Brother Barbour says, why should we punish a man for doing for hire that which he can do without hire and it is not a crime. Mr. Chairman, my Brother Barbour or his client was probably very much chagrined that we did not put ourselves in that position. Look at it! Suppose the bill had been put into the exact words that Brother Barbour used and the words for hire had been omitted, could a mother then give any medicine to a child or a Sister of Charity succor the poor? Could the good sister, who came here the other day and said that she was in the habit of giving "crawley root" to her brother's sick child or among the neighbors, could she then continue to deal out the crawley root to the whole neighborhood without hire? Does she come in here and want to have us put this bill in such form that she cannot use the crawley root? Why, Mr. Chairman, if you will simply put in the bill they shall not practice *for hire* you stop all quackery, and that is all we want to stop. (Applause.) Quacks are not missionaries, although sometimes they go abroad and travel. (Laughter.) But they are not missionaries for the love of humanity.

ABOUT CHIROPODISTS.

My Brother Walker, the other day, said that he wanted to amend this section so that it shall except also chiropodists while practicing chiropody only. Mr. Chairman, in the first place I never heard of a chiropodist who did not claim to be a physician, but there are chiropodists and chiropodists. I have never heard of one of them that practised chiropody only. My Brother

Walker waxed eloquent in behalf of one Dr. Kimbell, who, he said, had performed most wonderful cures for some of the most distinguished men in this community. According to the advertisements in the papers, he has removed very objectionable corns from the feet of some of our distinguished men. But is there where he makes the money, Mr. Chairman? He could not live and travel around from town to town, as he does, simply practicing "chiropody only" as Brother Walker wants it. I refer you to a Hartford paper of March 22 as to this same man. I don't want to advertise him, but do not think there are many here who will be affected by it, as these are his last days here in Hartford. (Mr. Gross here read from a column advertisement in a daily paper.) This advertisement shows simply this, that this man for whom Mr. Walker plead so eloquently is not a chiropodist, practicing chiropody only, but is trying to sell for $5 a bottle some preparation for nasal catarrh, and other concoctions, for reference to them occupies about three-fourths of the advertisement.

THE ELEVEN SCIENCES.

One other principal objection, one I think that every one of the gentlemen, no matter how intelligent or ignorant, that have appeared before us, have raised, is the fact that every applicant after the first day of October must pass an examination in eleven branches of science. Now, Mr. Chairman and Gentlemen, I call your attention to this point for it is absolutely ungrounded. It was but a few moments ago, when Mr. Walker said: "The art of healing is not the same as the practice of medicine," and that phrase has been repeated time and time again here by different people opposing this bill. The art of healing is separate and distinct from practice of medicine. And how so intelligent a man as Mr. Walker could have read this bill, and said what he did is beyond my understanding. Section 8 is as follows: "*Applicants to practice medicine or surgery* shall be examined in anatomy, physiology, medical chemistry, obstetrics, hygiene, etc. The bill only provides that applicants to *practice medicine* (and Brother Walker says that it does not include mental science or art of healing)—they are the only ones who have to pass this examination. Now, Mr. Chairman, after October 1, no one shall

receive a certificate to practice unless he has a diploma or shall pass an examination by one of these committees but an examination in the eleven branches named in Section 8, is limited entirely to those who desire to practice medicine or practice surgery. If a person comes and desires to practice mid-wifery I believe, Mr. Chairman, that any one of those committees will know what questions in hygiene or what questions in anatomy to ask such a person.

I did not believe when drafting this bill, nor those gentlemen of the three schools associated with me, that it was necessary to put in all such requirements or provisions. So it is with mental science. They will not be obliged to pass this examination in the eleven branches. Nowhere in the bill is there a provision that they have got to pass an examination in the eleven branches. So it is with hydropathy, or massage. So with the Turkish bath, if it is an art of healing. And right there, Mr. Chairman, I never have seen, and I doubt if it can be stated that there is in the land, a man who is running a Turkish bath who is not a physician or doctor, or claims to be. The reason is this, and plain,—the Russian bath cannot be taken by all people. Your own physicians will tell you that before you go to take a Russian bath you must know the action of your heart. So it is unnecessary to lumber up this bill with the provisions asked for. There is no merit in these suggestions. So with massage. We have in this city a distinguished medical practitioner, an educated man, who gives massage, as I am informed. But he only gives it in those cases where he knows that it can be safely undergone. Much has been said about Dr. Sweet. I have talked with Dr. Sweet myself. His position is that, so long as he is not abused, he is neutral on this bill, but he told me himself that he believed that medical education should precede medical practice, and as evidence of that stated that his own brother, or half-brother, whom he is educating, is now being educated in Yale Medical School. (Applause.)

ABOUT PASTEUR.

Much has been said about Pasteur. Do not be deceived, gentlemen. Pasteur occupies an exceptional position. He belongs to a class of scientists that we do not have in this country. I do

not know that I correctly define it, but it is, as near as I can understand, that of a medical chemist or biologist. France has those men and they are some of the most distinguished of her citizens. They do not practice medicine. They do not claim to. They confine themselves to their own legitimate branch, and, sir, if Pasteur was pursuing that occupation in the state of Connecticut to-day, he would be obliged to register, under Section 3,121 as a compounder of medicine. He does not desire to practice medicine. He does not ask that privilege as I understand.

My friends have said one thing more, as to the death-rate. That is something almost impossible for any one to determine. The death-rate depends upon the birth-rate, and if you will pass this bill the birth-rate will increase, and, necessarily, the death-rate, because a certain percentage of all born must die before five years of age. They may say you increase the death-rate, but of the ten that die, you will save ninety per cent. of the increase by the limitations that you throw around midwifery and the practice of medicine. (Applause.)

THE ECLECTICS.

One thing more, the opposition of the eclectics. The eclectics have but two objections to the bill—one is the state board of health. You have heard the remarks of their physicians here. They have shown that they think they are not properly treated by the state board of health, and have stated that the state board of health will have the right to refuse, or give the certificate provided by this bill. Mr. Chairman, that is absolutely untrue. No discretion is given by this bill to the state board of health. They are obliged by its terms, it is mandatory upon them, to issue a certificate to every one who passes the examination. The bill was carefully drawn in that respect, so that the right should not be given to them to pass in judgment upon the examination. The examination is to be passed on by the examining committees, and when they certify to the fact that an applicant has passed, the state board of health is bound to issue the certificate. The other objection is that it takes away their chartered rights. What are their chartered rights? Remember, Mr. Chairman, that the object of this bill is medical education. The State Eclectic Medical Society was chartered in 1855, and

the first section of that charter gives them the right to establish schools of medical education, and although they went to the Legislature in 1855 to get that right, yet down to this day they never have established a single school for medical education, nor availed themselves of that right, and if they have slept upon their rights all of these years, and if they have declined and refused to exercise that right, it is about time that the state of Connecticut took medical education into its own hands. But this law does not take away that right. The bill provides that any one who passes an examination and gets a diploma from a medical school or college, regarded as reputable by any one of the three chartered societies, shall be entitled to a certificate. Therefore, all the State Eclectic Medical Society must do is to establish the school of learning—grant the diploma, and that man becomes entitled to practice under the provisions of this bill.

The other provision of their charter which this bill takes away, is this: It is provided in the charter that the society, through its board of censors, may examine applicants, and if found qualified to practice medicine—it may license them to practice in this state. It appears that during the last thirty-eight years they have not licensed over twelve men, and if we leave that right they can license anybody, and this bill of course becomes ineffectual. Now you can readily see that it was a bona fide offer made to me in my office when they said, give us the right of representation upon the state board of health and we will not oppose any of the provisions of your bill. Whether, Mr. Chairman, the eclectics are able to walk alone or not is immaterial here. The state of Connecticut proposes to have the eclectic practitioner walk the same road and under the same limitations that the other medical practitioners of this state shall walk.

OTHER SOCIETIES.

The State Medical Society and the State Homeopathic Society have also these privileges and they give them up for the common good.

One thing more, my Brother Barbour is not entirely bad. Don't think that. There are things which we all hold too sacred

and powers too divine to be made the subject of jest, and I want to say it to the honor of my Brother Barbour that, when he came to recite from the third chapter of Acts the healing of the lame man at the Temple, no retainer was large enough for him to use the entire language of the verse from which he quoted. Peter, when he did that act, did it not of himself. Peter did not claim the power that these men claim, but it was only in the name of Jesus of Nazareth that he said, "Arise and walk." Be it said to my Brother Barbour's credit that in the midst of the irresistible fun with which he entertained us, when he came to that passage he had too much respect for himself to quote that part of the verse. I should not have referred to that, Mr. Chairman, had it not been for a pamphlet sent me by mail from Tolland County, and strange to say from a female, whose last name is also Scott. I don't know but what the Scott family have gone into this "liberty" business. The book is called "The Science of Medicine," and is published by this same medical liberty literature society, whose secretary we have with us,—but I do want to protest against the circulation of such literature wherever it comes from,—whether from Boston or from Tolland County, as the passage which this woman has marked, evidently for me to read, or else to read to your honors—

(Mr. Gross here read certain passages as to the miracles performed by Christ, and the claims now made by the Christian scientists, as to their power in the same direction.)

Mr. Chairman, we have a statute upon our books against blasphemy. I do believe that such trash as that brings the person who writes it within the provisions of that statute. (Applause.)

In conclusion, as I said before, I have been desirous of doing whatever I could to help the cause which I believe to be just. It would have been better, perhaps, if they had selected some one else, and perhaps paid him for his services. I can only say that I was called, and shall not begrudge one moment of the time taken if I can assist in bringing about in this state, a desirable law upon our statute books. It is for you now, gentlemen, to say what shall be done with the bill. My responsibility ceases. Yours commences. The medical gentlemen have testi-

fied before you as to the need of such legislation. I have attempted to show to you that such medical legislation is constitutional, and has been so held by the courts. All I can say is now that we commit it to you and your associates, for your deliberation and study, and ask you for your help. Inasmuch as you may do it unto one of the least of the little ones yet unborn, you shall do it unto him who notes not only the fall of the sparrow, but also the sorrows and death of everyone who is a victim of these itinerant quacks and uneducated practitioners. (Applause.)

The following gentlemen also spoke before the committee, in favor of the bill:

Chas. E. Gross, Esq., Hartford.
Rev. Francis Goodwin, Hartford.
Prof. Chas. A. Lindsley, New Haven.
Dr. G. H. Wilson, Meriden.
Dr. C. B. Adams, New Haven.
Dr. E. B. Hooker, Hartford.
Dr. D. A. Cleavland, Middletown.
Prof. W. H. Carmalt, New Haven.
Rowland Swift, Esq., Hartford.
Dr. C. B. Newton, Stafford.
Dr. E. F. Parsons, Thompsonville.
Dr. J. W. Wright, Bridgeport.
Dr. M. Storrs, Hartford.
Chas. Dudley Warner, Esq., Hartford.
Dr. W. C. Wile, Danbury.
Mr. John Hooper.
Rev. Dr. Newman Smyth, New Haven.
Rev. Rufus T. Cooper, New Haven.
Hon. N. D. Sperry, New Haven.
James D. Dewell, Esq., New Haven.
Rev. Mr. Etstoff, New Haven.
Rev. J. W. Van Ingen, New Haven.
Dr. R. S. Goodwin, Thomaston.
Hon. Lynde Harrison, New Haven.
Dr. G. L. Porter, Bridgeport.

Letters of approval of the measure by the following ministers from New Haven were read:

The Rev. Father John Russell.
The Rev. Father A. V. Higgins.
The Rev. Father P V. Hartigan.
The Rev. Father Bernard Bray.
Rev. E. S. Lines.

AN ACT

CONCERNING THE PRACTICE OF MEDICINE, SURGERY AND MIDWIFERY.

Be it enacted by the Senate and House of Representatives, in General Assembly convened:

SECTION 1. No person after the first day of October, 1893, shall, in this state, for compensation, gain or reward, received or expected, treat, operate, or prescribe for any injury, deformity, ailment or disease, actual or imaginary, of another person, nor practice surgery or midwifery, unless or until he has obtained a certificate of registration as hereinafter provided, and then only in the kind or branch of practice as stated in said certificate; but this act shall not apply to dentists while practicing dentistry only; nor to any person in the employ of the United States government while acting in the scope of his employment; nor to any person who shall furnish medical or surgical assistance in cases of sudden emergency; nor to any person residing out of this state who shall be employed to come into the state to assist or consult with any physician or surgeon who has been registered in conformity with the provisions of this act; nor to any physician or surgeon then actually residing out of this state who shall be employed to come into this state to treat, operate or prescribe for any injury, deformity, ailment or disease from which any person is suffering at the time when such non-resident physician or surgeon is so employed, nor to any actual resident of this state recommending by advertisement or otherwise, the use of proprietary remedies sold under trade-marks issued by the United States government, nor to any chiropodist or clairvoyant who does not use in his practice any drugs, medicines or poison, nor to any person practicing the massage method, or Swedish movement cure, sun cure,

Who may practice medicine, surgery, or midwifery in this state.

mind cure, magnetic healing or Christian science, nor to any other person who does not use or prescribe in his treatment of mankind, drugs, poisons, medicine, chemicals or nostrums.

Resident of this state practicing medicine, etc., to file statement with state board of health.

SEC. 2. Any resident of this state who at the time of the passage of this act shall be, or previously thereto has been, actually engaged in this state in the practice of medicine, surgery, midwifery, or any alleged practice of healing, may, before the first day of October, 1893, file with the state board of health duplicate statements subscribed and sworn to by him upon blanks furnished by said board, giving his name, age, and place of birth, and present residence, stating whether he is a graduate of any medical college or not, and if so, of what college, and the date of such graduation, and, if practicing under a license from any of the medical societies of this state, stating which society and the date when said license was obtained, and also stating the length of time during which said person has been engaged in practice in this state and how long in practice elsewhere; and he shall also state whether he has been engaged in general practice, or only in some special branch of medicine or surgery, and, if so, what branch.

Fee for registration.

Upon the receipt of such statements, as aforesaid, the state board of health shall issue upon the receipt of two dollars, to the person filing the same, a certificate of registration which shall state the kind or branch of practice in which the person named therein is engaged.

Certificate of registration after October 1, 1893.

SEC. 3. Any person who shall, subsequent to said first day of October, 1893, file with said state board of health duplicate statements in the form prescribed in the preceding section, showing that he is a graduate of a medical college which is recognized as reputable by any one of the chartered medical societies of the state, shall receive from said state board of health, upon the payment of two dollars, a certificate of registration, which shall state the kind or branch of practice in which the person named therein is engaged or is to be engaged.

SEC. 4. Any person residing in any town in another state which town adjoins the boundary line of Connecticut, who

at the time of the passage of this act shall be actually engaged in such town in the practice of medicine, surgery, or midwifery, or any branch of practice, may, before the first day of October, 1893, obtain from the state board of health of this state a like certificate of registration, upon the payment of two dollars and upon filing duplicate statements in the form prescribed in section two, which statements shall also show that he is entitled to receive such certificate under the provisions of this section. Registration of practitioner in town adjoining Connecticut.

SEC. 5. Except as provided in sections two, three, and four, of this act, no person shall, after the first day of October, 1893, obtain or receive a certificate of registration, as required by the provisions of section one, until he has passed a satisfactory examination before a committee to be appointed for the purpose by the state board of health, as hereinafter provided, nor until he has filed with said board of health duplicate certificates as aforesaid, together with duplicate certificates signed by a majority of one of said examining committee, stating that they have found him qualified to practice either medicine, surgery or midwifery, and any person filing said certificates shall receive from said state board of health, upon the payment of two dollars, a certificate of registration which shall state that the person named has been found qualified so to practice. Certificate of registration to be granted only after examination, except.

SEC. 6. During the month of December, 1893, The Connecticut Medical Society, The Connecticut Homeopathic Medical Society, and The Connecticut Eclectic Medical Association, shall each file with the state board of health the names of five physicians, and annually in the month of December thereafter the name of one physician practicing in this state, who shall have been recommended by the respective medical societies as persons competent to serve upon the examining committees to be appointed by the state board of health as hereinafter provided; and from time to time, in case any vacancy occurs upon any of said examining committees the president of the respective society shall nominate and the state board of health shall appoint such person to fill said vacancy. Medical societies to nominate for examining committee.

SEC. 7. In the month of January, 1894, the state board

State board of health to appoint examining committees.

of health shall appoint three examining committees, each consisting of five physicians, which committees shall severally be composed wholly of the persons nominated by one of the said medical societies respectively, as aforesaid. One of the members of each of said committees shall be appointed for one year, one for two years, one for three years, one for four years, and one for five years Thereafter, in the month of January in each year, the state board of health shall appoint one member of each of said committees who shall have been nominated for such office as aforesaid, to serve five years; and said board shall in the same manner fill any vacancy occurring at any time in any of said committees.

Examinations when, where, and how held.

SEC. 8. The state board of health shall designate when and where said committees shall hold said examinations, but shall call a meeting of a committee within thirty days after receipt of application for examination by it. Applicants to practice medicine or surgery shall be examined in anatomy, physiology, medical chemistry, obstetrics, hygiene, surgery, pathology, diagnosis, and therapeutics, including practice and materia medica. Each committee shall frame its own questions and conduct its examinations in writing, and both questions and answers shall be placed on file with the state board of health. Each applicant shall have the right to choose which of the three committees shall be the one by whom he shall be examined; but before taking such examination he shall pay to the committee their expenses, not exceeding, however, the sum of ten dollars. An applicant, after having been rejected by any of said examining committees, shall not be eligible to examination by another committee of examination until after the expiration of twelve months.

Statement to be transmitted to town clerk.

SEC. 9. Upon the receipt of any duplicate statements as hereinbefore provided, the state board of health shall transmit one of said duplicate statements, together with a duplicate of the certificate of registration in each case, to the town clerk of the town wherein the person so filing said statement resides; and in case such person does not reside in the state of Connecticut, then the state board of

health shall transmit said statement and certificate to the town clerk of the town in this state nearest to the place of residence of such person; and said town clerks shall record the same in books to be provided for that purpose by the state board of health, and shall then return the same to the person who filed the same with the board of health; and said town clerk shall receive for such recording a fee of twenty-five cents, to be paid by the state board of health out of the amount so paid to it as aforesaid.

List of medical colleges to be filed with state board of health.

SEC. 10. The secretary of each of said medical societies shall file with the secretary of the state board of health a list of medical colleges or institutions recognized as legal and reputable by his society; or all of such secretaries may agree upon a single list; and such list or lists may be corrected from time to time as may be necessary.

Penalty for violating this act.

SEC. 11. Every person violating any of the provisions of section one of this act shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than one hundred nor more than three hundred dollars for the first offense, and for each subsequent offense by a fine of not less than two hundred nor more than five hundred dollars, or by imprisonment in the county jail for not less than thirty nor more than ninety days, or by both such fine and imprisonment; the fine, when collected, shall be paid one-half to the person or corporation making the complaint, and the other half to the state board of health.

For false swearing.

SEC. 12. Any person who shall swear to any false statement contained in any statement required by this act to be filed with the state board of health, shall be deemed guilty of perjury and be punished accordingly.

Clerk of state board of health.

SEC. 13. The state board of health may, from time to time, appoint one of its number, or a person not a member of its board, to discharge the clerical duties imposed by this act upon said board, and may fix and pay a salary therefor, to be paid only out of the fees and penalties received under the provisions of this act.

Repeal.

SEC. 14. Sections 3006, 3007 and 3008 of the general statutes are hereby repealed, but nothing herein shall be

construed to repeal or affect any of the provisions of any private charter.

Licensed pharmacists not affected by this act.

SEC. 15. The provisions of this bill shall not apply to licensed pharmacists.

Prescriptions in English, when.

SEC. 16. All physicians or surgeons practicing under the provisions of this act shall, when requested, write a duplicate of their prescriptions in the English language. Any person who shall violate the requirements of this section shall pay a fine of not less than ten dollars for each and every offense.

Approved, May 25, 1893.

At a special meeting of the Centennial Committee in the rooms of the Board of Trade, Hartford, May, 1893, it was voted to give Mr. Gross five hundred dollars as part payment for the arduous, valuable and successful work he had done for the Society. When the subject was mentioned to Mr. Gross he wrote the following letter to Dr. Storrs, Chairman of the Committee:

HARTFORD, CONN., May 22d, 1893.

M. Storrs, M.D.:

MY DEAR DOCTOR: I thank you for your very kind suggestion that I send in a bill for services connected with the Medical Practice legislation, but my only bill, $14.95 for expenses, has been paid.

When two years ago I offered to draw a bill and assist you without charge, I meant just what I said, as I believed you were all actuated by a desire to benefit the State and the people, and were not working for personal gain.

When again a few weeks ago I stated to the Judiciary Committee that my services were gratuitous, I was honest and my object in stating it, was to show that we were all influenced by higher motives than mere dollars and cents.

To present now a bill, or even to accept any compensation or present would, in my opinion, be dishonorable and I cannot put myself in such a position. I thank you and your associates for your very kind expressions and intentions.

I admit that the matter took a great deal more of my time than I had anticipated, but that was only accidental.

If the bill as passed has any merit and accomplishes any good I shall be glad to have had a small share in the labor which produced it. But yourself and others will deserve the greater thanks. One favor, however, I must ask, this letter must not be published, nor referred to, at the banquet to which I have been invited as a guest.

Very respectfully,

CHARLES E. GROSS.

MEMBERS OF THE SOCIETY.

HONORARY MEMBERS.

OLIVER WENDELL HOLMES,	Boston, Mass.
GEORGE CHANDLER,	Worcester, Mass.
ANDREW JACOB FULLER,	Bath, Maine.
SAMUEL HAYES PENNINGTON,	Newark, N. J.
ARTHUR WARD,	Newark, N. J.
PAUL AUGUSTINE STACKPOLE,	Dover, N. H.
ADRIAN THEODORE WOODWARD,	Brandon, Vt.
WILLIAM M. COLLOM,	Brooklyn, N. Y.
BENJAMIN EDDY COTTING,	Boston, Mass.
SAMUEL THOMAS HUBBARD,	New York City.
GEORGE FIRMAN HORTON,	Terrytown, Pa.
AGRIPPA NELSON BELL,	Brooklyn, N. Y.
EDWARD CONSTANT SEGUIN,	Providence, R. I.
JOHN SHAW BILLINGS, U. S. A.,	Washington, D. C.
JAMES EDMUND REEVES,	Chattanooga, Tenn.
THOMAS ADDIS EMMET,	New York City.
EDWIN MOTT MOORE,	Rochester, N. Y.
WILLIAM HENRY WELCH,	Baltimore, Md.
ROBERT FULTON WEIR,	New York City.
SIR JOSEPH LISTER,	London, Eng.
EDWARD G. JANEWAY,	New York City.
EDWARD R. SQUIBB,	Brooklyn, N. Y.

ACTIVE MEMBERS.

The Names of those who have been Presidents are in Capitals.

HARTFORD COUNTY.

ERASTUS P. SWASEY, M.D., of New Britain, President.
JOSEPH E. ROOT, M.D., of Hartford, Clerk.
County Reporter—ANSEL G. COOK, M.D., of Hartford.
Censors—M. STORRS, M.D., R. W. GRISWOLD, M.D.,
W. A. M. WAINWRIGHT, M.D.

Annual Meeting, third Wednesday in April.

HARTFORD :

G. W. RUSSELL, No. 207 Farmington Avenue.
*David Crary, No. 490 Main Street.
P. W. Ellsworth, No. 123 Pearl Street.
A. W. BARROWS, No. 189 High Street.
P. M. Hastings, No. 130 Capitol Avenue.
Henry P. Stearns, No. 190 Retreat Avenue.
Irving W. Lyon, No. 26 Buckingham Avenue.
MELANCTHON STORRS, No. 91 Ann Street.
Horace S. Fuller, No. 95 Trumbull Street.
John O'Flaherty, 116 Main Street.
Nathan Mayer, No. 268 Main Street.
William M. Hudson, No. 105 Elm Street.
George C. Jarvis, No. 98 High Street.
W. A. M. WAINWRIGHT, "The Linden," No. 121 Main Street.
David Crary, Jr., No. 490 Main Street.
J. B. Lewis, No. 56 Prospect Street.
D. T. Bromley, No. 123 Pearl Street.
George P. Davis, No. 56 Prospect Street.
James Campbell, No. 34 Congress Street.
C E. Frœlich, No. 49 Pratt Street.
John Dwyer, No. 19 Asylum Street.
Harmon G. Howe, No. 51 Church Street.
W. T. Bacon, No. 3 Pratt Street.
W W. Knight, No 105½ Trumbull Street.
T. D. Crothers, Fairfield Avenue.
George L. Parmele, No. 25 Pratt Street.
Ellen F. H. Gladwin, No. 705 Asylum Street
S. B. St. John, No. 26 Pratt Street.
George R. Shepherd, No 32 Farmington Avenue.
F. S. Crossfield, No. 136 Trumbull Street.
M. M. Johnson, No 74 Pearl Street
William D. Morgan, No. 108 Farmington Avenue.
J. F Axtelle, No. 211 Main Street.
Noah Cressy, 214 Pearl Street.

* Exempted from taxation.

G. K. Welch, No. 94½ Trumbull Street.
P. H. Ingalls, No. 112 High Street
E. K. Root, No. 253 Main Street.
L. A. Davison, No. 3 Pratt Street.
John Howard, No. 21½ Pratt Street
C. D. Alton, No. 3 Pratt Street
Oliver C. Smith, No. 40 High Street.
Joseph E. Root, No. 49 Pearl Street.
William Porter, Jr., No. 391 Allyn Street.
J. J. Morrissey, No 643 Main Street.
Frederick T. Simpson, No. 122 High Street.
George R. Miller, No. 85 Trumbull Street.
Charles C. Beach, No. 119 High Street.
G. C. Segur, No. 1566 Broad Street
G. C. Bailey, No 65 Church Street.
A. E. Abrams, No 78 High Street.
C. E. Taft, No. 98 High Street.
S. B. Childs, No. 18 Pratt Street.
Thomas F. Kane, No. 141 Main Street.
A. J. Wolff, No. 71 Capitol Avenue.
A. G. Cook, No. 164 High Street.
Thomas Turnbull, No. 103 Main Street.
Mrs L. Darnstadt Kean, No. 15 Pleasant Street.
C. A. Fox, No. 925 Main Street.
E. A. Down, No. 190 Retreat Avenue.
Daniel F. Sullivan, No. 19½ Pratt Street.
A. J. Varno, No 270 Main Street.
J. Henry Cahill, No. 55 Church Street
E. J. McKnight, 370 Asylum Street.

BERLIN:
R. E. Ensign,
Charles A. Gillin.

BLOOMFIELD:
*Henry Gray.

BRISTOL:
*Henry E. Way,
J. J. Wilson,
W. W. Horton,

BURNSIDE:
F. H. Mayberry.

CANTON—Collinsville:
G. F. Lewis,
I. F. Barnes,
Ida Rachel Gridley,
William H. Crowley.

EAST HARTFORD:
E. H. Griswold,
T. J O'Connell.
W. G. Murphy.

EAST WINDSOR—Broadbrook:
H. O. Allen.

EAST WINDSOR—Warehouse Point.
P. H. Sellew.

ENFIELD—Thompsonville:
Edward F. Parsons,
Rial L. Strickland,
George T Finch,
John F. Dowling,
Henry G. Varno

FARMINGTON:
Frank Wheeler,
Charles Carrington.

GLASTONBURY:
H. C. Bunce,
C. G. Rankin.
South Glastonbury:
H. M. Rising.

HAZARDVILLE:
S. W. Houghton.

MANCHESTER:
F. H. Whiton,
B. S. Barrows,
J. T. Dooley.

* Exempted from taxation.

South Manchester:
J. N. Parker,
W. R. Tinker,
T. H. Weldon.

New Britain:
*B. N. COMINGS,
George Clary,
E. B. Lyon,
J. S. Stone,
Erastus P. Swasey,
M. J. Coholan,
G. J. Holmes,
L. M. Cremin,
W T. Bnnnell,
Samuel Wellington Irving,
John Baptist Poyer,
J. F. Donahue,
H. Doutteil,
R. F. Brown,
T. G. Wright.

Plainville:
J. N. Bull.

Rocky Hill:
R W. Griswold,
H. B. Plunkett.

Simsbury—Tariffville:
Charles Wooster.

Southington:
I. P. Fiske,
G. W. Steadman.

Suffield:
J. K. Mason,
M. T. Newton.

Wethersfield:
A. S. Warner,
*Roswell Fox,
Edward G. Fox,
Arthur Wayland Howard.

Windsor:
S. A. Wilson,
Newton S. Bell,
J. A. Coogan.

Windsor Locks:
S. R. Burnap.
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NEW HAVEN COUNTY.

WALTER L. BARBER, M.D., of Waterbury, President.
John F. Luby, M.D., of New Haven, Vice President.
Joseph H. Townsend, M.D., of New Haven, Clerk.
County Reporter—F. W. Wright, New Haven.
Censors—O. J. D. Hughes, M D., H. E. Smith, M.D.,
M. N. Chamberlin, M.D.

Annual Meeting, third Thursday in April; semi-annual, third Thursday in October.

New Haven:
David L. Daggett, No. 60 Wall Street.
HENRY BRONSON, No 1198 Chapel Street.
S. G. Hnbbard, No. 23 College Street.
C. A. LINDSLEY, No. 15 Elm Street.
John Nicoll, No. 13 Elm Street.
Moses C. White, No. 48 College Street.
Leonard J. Sanford, No. 216 Crown Street.
F. L. Dibble, Tontine Hotel.
T. H. Bishop, No. 215 Chnrch Street
FRANCIS BACON, No. 32 High Street.
W. L. Bradley, No. 203 Crown Street.
A. E. Winchell, No. 60 Pearl Street.
Robert S. Ives, No. 247 Temple Street.
Evelyn L. Bissell, No. 308 Crown Street.
Arthur Ruickoldt, No. 71 Olive Street.
Walter Judson, No. 1145 Chapel Street.

* Exempted from taxation.

D. C. Leavenworth, No. 75 Howe Street.
Frederick Bellosa, No. 126 Court Street.
S. H. Chapman, No. 193 Church Street.
J. P. C. Foster, No. 109 College Street.
F. O. White, No. 514 Howard Avenue.
W. H. Carmalt, No 87 Elm Street.
M. A. Cremin, No. 129 Olive Street.
T. H. Russell, No. 137 Elm Street.
F. H. Whittemore, No. 224 Orauge Street.
C. P. Lindsley, No. 37 Elm Street.
H. Fleischner, No. 928 Grand Avenue.
M. Mailhouse, No. 151 Meadow Street.
M C. O'Conuor, No. 882 State Street.
A. W. Leighton, No. 215 York Street.
Charles E. Park, No. 132 Olive Street.
F. E. Beckwith, No. 139 Church Street.
Gustavus Eliot, No. 209 Church Street.
J. E. Stetson, No. 106 High Street.
J. F. Luby, No 667 Graud Avenue.
William W. Hawkes, No. 35 High Street.
Frank H. Wheeler, No. 188 Crown Street.
Herbert E Smith, Medical College.
Benjamiu L. Lambert, No. 358 Howard Avenue.
Clarence L. Fitch, No. 155 Wooster Street.
F. W. Wright, No. 48 Pearl Street.
W. H. Thompson, No. 1 Atwater, Cor. Grand Ave.
S. D. Gilbert, No. 29 Wall Street.
Edward K. Roberts, No. 244 Grand Avenue.
Oliver T. Osborne, No. 252 York Street.
Lucy M. Peckham, No. 144 Green Street.
William G. Daggett, No. 189 Church Street.
Louis S. DeForest, No. 261 Orange Street.
Henry L. Swain, No. 238 York Street.
Mary B. Moody, Sherland Avenue, Cor. E. Grand Ave.
E. G. Madden, No. 228 Cougress Avenue.
G. F. Converse, Junction Whalley Ave and Goffe Street.
J. H Towusend, No. 93 Howe Street.
T. M. Cahill, No. 227 Frauklin Street.
C. J. Foot, No. 305 Howard Avenue.
Marvin Smith, No. 4 Pearl Street.
S. J. Maher, No. 159 Orange Street.
Jay W. Seaver, No. 233 York Street.
Louis B. Bishop, No. 77 Whituey Avenue.
H. W. Ring, No. 46 Elm Street.
W. C. Welch, No. 44 College Street.
A. O. Barribault, No. 400 Grand Avenue.
J. F. Baker, No. 695 Grand Avenue.
Rollin McNeil, No. 149 Bradley Street.
Edward M. McCabe, No. 383 Howard Avenue.
James M. Reilly, No. 337 Cedar Street.
Clarence E. Skinner, No. 318 Orange Street.
N. R. Hotchkiss, No. 164 Thompson Street.
Benjamin A. Cheney, No. 40 Elm Street
Charles A Tuttle, No. 129 Whalley Avenue.
Harry A. Elcock, No. 42 Dixwell Avenue.
Louis J. Gaynor, No 143 College Street.
Harry B. Ferris, No. 317 Crown Street.
Austin B. Fuller, No. 145 Olive Street.
George S. Woodward, Cor. Crown and College Streets.

Jacob M. Falk, No. 1090 Chapel Street.
Moses J. Husinsky, No. 145 Congress Avenue.
Edmund S. Thomson, No. 1079 Chapel Street.
Henry F. Klenke, No. 758 Grand Avenue.
Leonard W. Bacon, Jr., No 294 Elm Street.

Westville :
A. W. Marsh.

ANSONIA :
Edward W. Warren,
Louis E. Cooper.

BRANFORD :
C. W. Gaylord,
Walter Zink,
A. J. Tenney.

Stony Creek :
Paul S. Robinson.

CHESHIRE :
M. N. Chamberlin,
E T. Cornwall.

DERBY :
Birmingham :
T. J. O'Sullivan,
F. N. Loomis,
R. M. Griswold,
Royal W. Pinney.

GUILFORD :
R. B. West.

HAMDEN :
E. D. Swift,
†O. F. Treadwell,
G. H. Joslin.

MADISON :
*D. M Webb.

MERIDEN :
*Asa H. Churchill,
C. H. S. Davis,
N. Nickerson,
A. W. Tracy,
E. T. Bradstreet,
Anna J. Ferris,
J. D. Eggleston,
Edward W Smith,
O. J. D. Hughes,
Ava H. Fenn,
E. W. Pierce,
B. D. Stone,
F. P. Griswold,
E. D. Hall,
B. D. Ryce,
H. W. Delesdernier,
H. A. Meeks,
John L. Gartland,
Alfred Ploetz.

MILFORD :
*Hull Allen,
E. B. Heady.

NAUGATUCK :
Frank B. Tuttle,
Thomas M. Bull,
Frederick A. Spring,
James W. Robbins.

NORTH HAVEN
R. B Goodyear.

ORANGE,—West Haven :
J. F. Barnet,
William V. Wilson,
Durell Shephard.

OXFORD :
Lewis Barnes.

SEYMOUR :
Frank A. Benedict.

SOUTHBURY :
Myron L. Cooley.

WALLINGFORD :
A. S. Houghton,
J. D. McGaughey,
C. H. Atwater,
William S. Russell,
William P. Wilson,
Frank E. Coudert.

WATERBURY :
Alfred North,
Edward L. Griggs,
F. E. Castle,
E. W. McDonald,
Walter H. Holmes,
Walter L. Barber,
C. W. S. Frost,
F. M. Cannon,
Charles S. Rodman,
J. M. Benedict,
Thomas L Axtelle,
Carl E. Munger,
Bernard A. O'Hara,
John F. Hayes,
Caroline R. Conkey,
M. J. Donahue,
H. S. Wildman,
Nicholas J. Hanlon,
Augustin A. Crane,
Patrick T. O'Connor—157

†P. O. New Haven.

*Exempted from Taxation.

NEW LONDON COUNTY.

ANTHONY PECK, M.D., of Norwich, President.
CHARLES E. BRAYTON, M.D., of Stonington, Vice President.
JULIAN LAPIERRE, M.D., 220 Central Ave., Norwich, Clerk.
County Reporter—JULIAN LAPIERRE, M.D., of Norwich.
Censors—L. S. PADDOCK, M.D., WM. M. BURCHARD, M.D., F. H. BRAMAN, M.D.

Annual Meeting, first Thursday in April; semi-annual, first Thursday in October.

COLCHESTER:
Myron W. Robinson,
A. J. Crighton.

EAST LYME,—Niantic:
Frederick H. Dart.

GRISWOLD,—Jewett City:
George H. Jenniugs.

GROTON:
Edmund P. Douglass.

LYME:
James L. Terry,
George W. Harris.

MONTVILLE:
*John C. Bolles,
Earl Mathewson.

Uncasville:
William M. Burchard.

NEW LONDON:
A. W. Nelson,
F. N. Braman,
J. G. Stanton,
F. J. Beckwith,
J. E. Cronin,
Charles B. Graves,
Joseph R. Crofton,
Merritt S. Ferguson,
Elisha Munger,
Hiram B. Thomson,
John N. Dimon,
John B. Cunningham.

NORWICH:
Lewis S. Paddock,
William Witter,
William S. C. Perkins,
Patrick Cassidy,
L. B. Almy,
Anthony Peck,
Julian LaPierre,
E. P. Brewer,
N. P. Smith,
Patrick H. Harriman,
W. K. Tingley,
W. T. Browne,
George R. Harris,
William Fairbanks,
Charles H. Perkins,
Rush W. Kimball.

STONINGTON:
Charles E Brayton,
George D. Stanton

Mystic:
*Albert T. Chapman.

Mystic Bridge:
Frank A. Coates,
A. M. Purdy.

TAFTVILLE:
George Thompson.

VOLUNTOWN:
Warren Russell Davis.

—45

FAIRFIELD COUNTY.

FREDERICK M. WILSON, M.D., of Bridgeport, President.
W. S. WATSON, M.D., of Danbury, Vice-President.
L. T. DAY, M.D., of Westport, Clerk.
County Reporter—W. H. DONALDSON, M.D., of Fairfield.
Censors—J. W. Wright, M.D., W. C. WILE, M.D., J. G. GREGORY, M.D.

Annual Meeting, second Tuesday in April, at Bridgeport; semi-annual in October.

*Exempted from taxation.

BETHEL.
A. E. Barber,
Austin E. May,
Charles R. Hart.

BRIDGEPORT:
ROBERT HUBBARD,
Andrew J. Smith,
GEORGE L. PORTER,
Robert Lauder,
Curtis H. Bill,
N. E. Wordin,
F. M. Wilson,
T. F. Martin,
W. H. Bunnell,
Willis Cummings,
F. B. Downs,
Mary J. Rising Young,
W. C. Bowers,
F. A. Rice,
J. W. Wright,
A. W. Lyons,
A. A. Holmes,
Charles C. Godfrey,
S. M. Garlick,
Henry Blodget,
J. C. Lynch,
C. C. Hoyt,
G. W. Osborn,
J. R. Topping,
B. W. White,
Jacob May,
F. C. Graves,
G. B. Cowell,
C. N. Haskell,
Frank L. Smith,
George E. Ober,
B. DeF. Sheedy,
Russell T. Bishop.

BROOKFIELD:
*A. L. Williams,
Junius F. Smith.

DANBURY:
F. P. Clark,
A. T. Clason,
Wm. F. Lacey,
E. E. Snow,
E. A. Stratton,
W. S. Watson,
A. L. Scott,
William C. Wile,
D. Chester Brown,
W A. Follansbee,
Richard Ellis,
H. F. Brownlee,
George R. Hawley,
D. C. DeWolfe,
John H. Benedict,
Nathaniel Selleck,
Clayton P. Bennett.

DARIEN—Noroton.
William F. French,
WM. G. BROWNSON.

FAIRFIELD:
W. H. Donaldson.

Greenfield Hill:
M. V. B. Dunham.

Southport:
C. H. Osborne.

GREENWICH:
W. L. Griswold,
T. M. Franklin,
Spencer Franklin.

HUNTINGTON—Shelton:
Gould A. Shelton,
D. A. Richardson.

MONROE:
John G. Stevens.

Stepney:
Seth Hill.

NEW CANAAN:
W. C. Brownson.

NEWTOWN:
Edward M. Smith.

Sandy Hook:
Dana P. Richardson,
W. P. J. Burke.

NORWALK:
James G. Gregory,
R. L. Higgins,
S. H. Huntington,
William J. Tracey.

South Norwalk:
George W. Benedict,
W. C. Burke, Jr.,
A. N. Clark.

East Norwalk:
Frederick B Baker.

RIDGEFIELD:
Willis E. Weed,
Russell W. Lowe,

* Exempted from Taxation.

STAMFORD :
H. P. Geib,
A. M. Hurlbutt,
Samuel Pierson,
A. N. Phillips,
C. R. Hexamer,
P. P. Van Vleet,
F. H. Schavoir,
Wm. A. B. Treadway,
Lawrence S. Buckley,
F. P. Rogers,
C. S. Darby, Jr.,
E. J. Meeks,
Roswelle G. Philip.

STRATFORD :
W. B. Cogswell,
G. Fred. Lewis.

WESTON—Lyon's Plain.
F. Gorham.

WESTPORT :
George B. Bouton,
F. Powers,
Loren T. Day,
F. D. Rulund.

WILTON :
A. B. Gorham. —102

WINDHAM COUNTY.

E. H. DAVIS, M.D., of Plainfield, President.
CHARLES E. HILL, M.D., of East Killingly, Vice President.
F. A. MORRELL, M.D., of Putnam, Clerk.
County Reporter—FRANK E. GUILD, M.D., of Windham.
Censors—LOWELL HOLBROOK, M.D., W. A. LEWIS, M.D.

BROOKLYN :
A. H. Tanner.

KILLINGLY :
Ashael E. Darling,
Henry F. Hammond.

DANIELSONVILLE :
Rienzi Robinson,
Nathaniel Hibbard,
W. H. Judson.

EAST KILLINGLY :
Edwin A. Hill,
Charles E. Hill.

PLAINFIELD,—Moosup :
William A. Lewis,
Charles N. Allen,
E. H. Davis.

Central Village :
Charles H. Rogers.

POMFRET :
Frederick G. Sawtelle,
Frederick W. Chapin.

PUTNAM :
*H. W. Hough,
John B. Kent,
F. A. Morrell,
Omar LaRue,
H. A. Sherman,
Warren W. Foster.

SCOTLAND :
J. Clifton Taylor.

THOMPSON :
LOWELL HOLBROOK.

WAUREGAN :
Frederick E. Rainzelle.

WINDHAM :
F. E. Guild.

Willimantic :
Frederick Rogers,
T. MORTON HILLS,
O. B. Griggs,
C. J. Fox,
T. R. Parker,
Samuel David,
Everett D. Card,
John Weldon,
James Jay Smith,
A. D. David,
C. H. Girard,
R. C. White. —36

*Exempted from taxation.

LITCHFIELD COUNTY.

THATCHER S. HANCHETT, M.D., of Torrington, President.
JOHN L. BUEL, M.D., of Litchfield, Vice-President.
JAMES T. SEDGWICK, M.D., of Litchfield, Clerk.
County Reporter—JOHN C. KENDALL, M.D., of Norfolk.
Censors—ORLANDO BROWN, M.D., JOHN C. KENDALL, M.D.

Annual Meeting, second Tuesday in October; semi-annual, fourth Tuesday in April.

CANAAN:
C. W. Camp.

GOSHEN:
J. H. North

LITCHFIELD:
C. O. Belden,
F. H. Wiggin,
J. T. Sedgwick,
John L. Buel,
William S. McLaren.

NEW HARTFORD:
Jerry Burwell.

NEW MILFORD—Gaylordsville:
H. B. Griswold.

NORFOLK:
John C. Kendall.

PLYMOUTH—Terryville:
W. P. Sweet,
W. W. Wellington.

ROXBURY:
L. J. Pons.

SALISBURY:
H. M. Burtch.

Lakeville:
W. Bissell,
George H. Knight.

SHARON:
W. W. Knight,
B. W. Mnnson.

THOMASTON:
Ralph S. Goodwin,
George D. Furguson.

TORRINGTON:
William L. Platt,
T. S. Hanchett,
Elias Pratt.

WASHINGTON:
ORLANDO BROWN,
William J. Ford.

New Preston:
R. A. Marcy.

WATERTOWN:
W. S. Munger,
Eugene C French.

WINCHESTER,—Winsted:
E. L. Pratt,
W. S. Hnlbert.

West Winsted:
John W. Bidwell,
E. H. Welch.

WOODBURY:
L. Y. Ketchum. —32

MIDDLESEX COUNTY.

FRANK B. LOOK, M.D., of Middletown, President.
JOHN E. BAILEY, M.D., of Middletown, Clerk.
County Reporter—R. W. MATHEWSON, M.D., of Durham.
Censors—S. W. TURNER, M.D., GEORGE W. BURKE, M.D., FRANK B. LOOK, M.D.

Annual Meeting in April, at Middletown or Haddam.

CHATHAM—Middle Haddam:
Albert E. Worthington,
George N. Lawson.

East Hampton:
Albert Field.

CHESTER:
Sylvester W. Turner,
Fred Sumner Smith.

CLINTON:
Herbert S. Reynolds.

CROMWELL:
Winthrop B. Hallock,
Frank K. Hallock.

DURHAM:
*R. W. Mathewson.

EAST HADDAM:
M. W Plumstead.

ESSEX:
Charles H Hubbard,
Willis A. Russell.

HADDAM:
Miner C. Hazen,
Selden W. Noyes.

KILLINGWORTH:
E. P. Nichols.

MIDDLETOWN:
George W. Burke,
F. D. EDGERTON,
Daniel A. Cleaveland,
James Olmstead,
Wm. E. Fisher,
C. E. Stanley,
J. N. Keniston,
H. S. Noble,
M. D. Murphy,
F. B. Look,
*John E. Bailey,
A. J. Campbell,
A. B. Coleburn,
J. Frances Calef.

OLD SAYBROOK:
J. H. Granniss.

PORTLAND:
C. A. Sears,
F. E. Potter.

SAYBROOK—Deep River:
Edwin Bidwell,
H. T. French.

WESTBROOK:
T. B. Bloomfield. —35

TOLLAND COUNTY.

THOMAS F. ROCKWELL, M.D., of Rockville, President.
W. N. SIMMONS, M.D., of Tolland, Clerk.
County Reporter—C. B. NEWTON, M.D., of Stafford Springs.
Censors—C. F. SUMNER, M.D., E. P. FLINT, M.D.,
W. N. SIMMONS, M.D.

Annual Meeting, third Thursday in April.

BOLTON:
CHAS. F. SUMNER.

COVENTRY:
William C. Haven.

South Coventry:
Henry S. Dean,
W. L. Higgins.

ELLINGTON:
E. T. Davis.

MANSFIELD:
F. E. Johnson.

ROCKVILLE:
Stephen G. Risley,
Francis L. Dickinson,
Frederick Gilnack,
E. K. Leonard,
T. F. Rockwell,
Fred Walsh,
T. C. A. Lawlor,
E. P. Flint.

STAFFORD,—Stafford Springs:
C. B. NEWTON,
T. H. Rafftery.

TOLLAND:
W. N. Simmons.

VERNON:
A. R. GOODRICH. —18

* Exempted from taxation.

ALPHABETICAL LIST

OF THE

MEMBERS OF THE CONNECTICUT MEDICAL SOCIETY,

With Date and Place of Graduation, and Post-Office Address.

Name.	Medical Graduation.	P. O. Address.
Abrams, Alva Elnathan,	Albany, '81,	Hartford.
Allen, Charles Noah,	Univ. Vt., '81,	Moosup.
Allen, Howard Oliver,	Univ. N. Y., '79,	Broad Brook.
Allen, Hull,	Univ. N. Y.,'21,	Milford.
Almy, Leonard Ballou, B.A., '72,	Bellevue, '76,	Norwich.
Alton, Charles De Lancey,	Bellevue, '75,	Hartford.
Atwater, Caleb Huntington,	P.& S., N. Y., '71,	Wallingford.
Axtelle, Johu Franklin,	L. I. Coll.Hosp.,'71,	Hartford.
Axtelle, Thomas Lincoln,	Bellevue, '81,	Waterbnry.
Bacon, Francis,	Yale, '53,	New Haven.
Bacon, Leonard Woolsey, Jr.,	Yale, '92,	New Haven.
Bacon, Wm. Turner, B.A., M.A.,'68,	Univ. N. Y., '71,	Hartford.
Bacon, George Cornelius,	Univ. N. Y., '86,	Hartford.
Bailey, John Elmore,	P. & S., N. Y., '85,	Middletown.
Baker, Frederick Birdseye,	Univ. Md., '88,	East Norwalk.
Baker, Johu Francis,	L. I. Col.Hosp.,'89,	New Haven.
Baldwiu, Edward Robinsou,	Yale, '90,	Cromwell.
Barber, Alvin Elizur,	Berkshire, '54,	Bethel.
Barber, Walter Lewis,	Bellevue, '73,	Waterbnry.
Baribault, Arthur Octave,	Vict. Med. Col.,'89.	New Haveu.
Barnes, Irving Ferguson,	Univ. N. Y., '90,	Colliusville.
Barnes, Lewis, B.A., M.A., '47,	Buffalo Univ., '50,	Oxford.
Baruett, John Frederick,	Yale, '69,	West Haven.
Barrows, Ashbel Ward,	Yale, '41,	Hartford.
Barrows, Benj. Safford, Ph.B., '83,	Univ. N. Y., '87,	Manchester.
Beach, Charles Coffing,	P. & S., N. Y., '82,	Hartford.
Beckwith, Frank Edwin, M.A , '81,	P. & S., N. Y., '71,	New Haveu.
Beckwith, Fred'k Jason, B.A., '78,	Harvard, '82.	New London.
Belden, Charles Ogilvie,	P. & S., N. Y., '82,	Litchfield.
Bell, Newtou Stephen,	Uuiv. Vt., '64,	Wiudsor.
Bellosa, Frederick,	Yale, '72,	New Haven.
Benedict, Frank Allen,	P. & S , N. Y., '87,	Seymour.
Benedict, George Willis, B.A., '74,	P. & S., N. Y., '78,	South Norwalk.
Benedict, John Howe,	Conn.Med. Soc., '58,	Danbury.

In prepariug this list the Secretary has followed the list in the Proceedings of 1892, made with great care aud labor by Dr. J. B. Lewis for the Centennial year. It may be relied upon as being correct.

Name.	Medical Graduation.	P. O. Address.
Benedict, John Mitchell,	Univ. N. Y., '82,	Waterbury.
Bennett, Clayton Powers,	P. & S., N. Y., '90,	Danbury.
Bidwell, Edwin,	Yale, '47,	Deep River.
Bidwell, John Welch,	Berkshire, '46,	West Winsted.
Bill, Curtis Harvey,	Univ. N. Y., '59,	Bridgeport.
Bishop, Louis Bennett, B.A., '86,	Yale, '88,	New Haven.
Bishop, Russell Tomlinson,	Bellevue, '93,	Bridgeport.
Bishop, Timothy Huggins,	Yale, '60,	New Haven.
Bissell, Evelyn Lyman,	Yale, '60,	New Haven.
Bissell, William, B A., '53,	Yale, '56,	Lakeville.
Blodget, Henry,	Bellevue, '81,	Bridgeport.
Bloomfield, Thomas Blanch,	P. & S., N. Y., '76,	Westbrook.
Bolles, John Calvin,	Vt. Med. Coll., '40,	Montville.
Bonton, George Beriah,	Y., '56, N. Y. M., '56,	Westport.
Bowers, William Cutler,	P. & S., N. Y., '77,	Bridgeport.
Bradley, Wm. Lockwood, B.A., '60,	Yale, '64,	New Haven.
Bradstreet, Edw'd Thos., B.A., '74,	P. & S., N. Y., '77,	Meriden.
Braman, Francis Nelson,	Bellevue, '66,	New London.
Brayton, Charles Erskine,	P. & S., N. Y., '73,	Stonington.
Brewer, Edward Pliny, Ph.D.,	Dartmouth, '79,	Norwich.
Bromley, Daniel Tyler,	Yale, '67,	Hartford.
Bronson, Henry, M.A., '40,	Yale, '27,	New Haven.
Brown, David Chester,	Yale, '84,	Danbury.
Brown, Orlando,	Yale, '51,	Washington.
Brown, Richard Francis,	Yale, '92,	New Britain.
Browne, William Tyler, Ph.B., '78,	Harvard, '82,	Norwich.
Brownlee, Harris Fenton,	P. & S., N. Y., '88,	Danbury.
Brownson, William Clarence,	Univ. Y., '78,	New Canaan.
Brownson, William Greene, M.A.,	Univ. N. Y., '65,	Noroton.
Buckley, Lawrence Stephen,	Dartmouth, '89,	Stamford.
Buel, John Laidlaw,	P. & S., N.Y., '88,	Litchfield.
Bull, John Norris,	P. & S , N. Y., '78,	Plainville.
Bull, Thomas Marcus,	P. & S., N. Y., '87,	Naugatuck.
Bunce, Henry Clinton,	Yale, '50,	Glastonbury.
Bunnell, Wilbur Pitkin,	Univ. N. Y., '84,	New Britain.
Bunnell, William Henry,	P. & S., N. Y., '79,	Bridgeport.
Burchard, William Metcalf,	Georgetown, '66,	Uncasville.
Burke, George Whitney, B.A., '39,	Yale, '43,	Middletown.
Burke, William Craige,	L. I. Coll. Hosp. '75,	South Norwalk.
Burke William Patrick John,	Yale, '90,	Sandy Hook.
Burnap, Sidney Rogers, A.B., '58,	P. & S., N. Y., '62,	Windsor Locks.
Burns, Edward,	Univ. N. Y., '82,	New Britain
Burtch, Harry Mercein,	Albany, '82,	Salisbury.
Burwell, Jeremiah,	Berkshire, '39,	New Hartford.
Cahill, Joseph Henry,	Balt. Univ., '92,	Hartford.
Cahill, Thomas Matthew,	Yale, '88,	New Haven.
Calef, Jeremiah Francis, B.A., '77,	Yale, 80,	Cromwell.
Camp, Charles Welford.	Univ. N. Y., '75,	Canaan.
Campbell, Arthur Joseph,	P. & S., Balt., '85,	Middletown
Campbell, James,	Univ. Vt., '71,	Hartford.
Cannon, Frederick Miller,	Univ. N. Y., '67,	Waterbury.
Card, Everett De Los Clark,	Univ. N. Y., '82,	Willimantic.
Carmalt, William Henry, M.A., '81,	P. & S., N. Y., '61,	New Haven.
Carrington, Charles,	P. & S., N. Y., '60	Farmington.
Cassidy, Patrick,	Univ. Vt., '65,	Norwich.
Castle, Frank Edwin,	Yale, '70,	Waterbury.
Chamberlain, Myron Newton, B. A., '57,	Yale, '66,	Cheshire.

Name.	Medical Graduation.	P. O. Address.
Chapin, Frederick Windle,	Bellevue, '79,	Pomfret.
Chapman, Albert Taylor,	P. & S., N. Y., '64,	Mystic.
Chapman, Sherman Hartwell, B.A., '63; M.A., '66,	P. & S., N. Y., '69,	New Haven.
Cheney, Benjamin Austin, B.A., '88,	Yale, '90,	New Haven.
Childs, Samuel Beresford,	Univ. N. Y., '87,	Hartford.
Churchill, Asa Hopkins,	Yale, '57,	Meriden.
Clark, Arthur Norman,	P. & S., N. Y., '83,	South Norwalk.
Clark, Franklin Pierce,	P. & S., N. Y., '76,	Danbury.
Clary, George, A.B., '52,	N. Y., '57; Yale, '57,	New Britain.
Clason, Abraham Travis,	Univ. N. Y., '66,	Danbury.
Cleavelaud, Daniel Athearn,	Bowdoin, '56,	Middletown.
Coates, Franklin Avery, A.B., '72; A.M., '75,	P. & S., N. Y., '75,	Mystic Bridge.
Cogswell, William Badger,	Bellevue, '81,	Stratford.
Coholan, Michael James,	Univ. N. Y., '65,	New Britain.
Colebnrn, Arthnr Burr,	P. & S., N. Y., '90,	Middletown.
Comings, Benjamin Newton,	Castleton, Vt., '45,	New Britain.
Conkey, Caroline Root,	W. Med., N.Y., '81,	Waterbury.
Couverse, George Frederick,	Yale, '87,	New Haven.
Coogan, Joseph Albert,	Bellevue, '76,	Windsor Locks.
Cook, Ansel Grauville,	P. & S., N. Y., '87,	Hartford.
Cooley, Myron Lynus,	Buffalo, '86,	Southbury.
Cooper, Louis Edward, Ph.B., '84.	Yale, '86,	Ansonia.
Cornwall, Edward Thomas,	P. & S., N. Y., '81,	Cheshire.
Coudert, Frank Edmouds, Ph. D.,	Univ N. Y., '90,	Wallingford.
Cowell, George B. Edmouds, Ph D.,	P. & S., N. Y., '88,	Bridgeport.
Crane, Augustiu Averill, B.A., '85,	Yale, '87,	Waterbury.
Crary, David,	Castleton, Vt., '34,	Hartford.
Crary, David, Jr.,	Yale, '69,	Hartford.
Cremin, Lawrence Michael,	Uuiv. N. Y., '81,	New Britain.
Cremin, Michael Aloysius,	P. & S., N. Y., '75,	New Haven.
Cressy, Noah, Ph.D.,	Berkshire, '62,	Hartford.
Crighton, Andrew John,	P. & S., Balt., '91.	Colchester.
Crofton, Joseph Richard,	P. & S., N. Y., '89,	New Loudon.
Cronin, Joseph Francis,	P. & S., N. Y. '83,	New Loudou.
Crossfield, Frederick Solou,	Bellevue, '78,	Hartford.
Crothers, Thomas Davison,	Albauy, '65,	Hartford.
Crowley, William Holmes,	Buf. Med Coll., '90,	Collinsville.
Cummings, William Willis,	Univ. N. Y., '82,	Bridgeport.
Cunningham, John B.,	Univ. Vt., '90,	New Londou.
Daggett, David Lewis, B.A., '39,	Yale, '43,	New Haven.
Daggett, William Gibbons, B.A., '80,	Univ. Pa., '84,	New Haven.
Darby, Charles Sinclair,	Charlest'n Med., '60,	Stamford.
Darby, Charles Sinclair, Jr.,	Univ. N. Y., '90,	Stamford.
Darling, Asael Ebeuezer,	Harvard, '72,	Killiugly.
Dart, Frederick Howard,	P. & S., N. Y., '84,	Niantic.
David, Adélard David,	Dartmouth, '89,	Willimantic.
David, Samuel,	Vict. Med. Col., '46,	Willimautic.
Davis, Charles Henry Stanley,	Uuiv. N. Y., '66	Merideu.
Davis, Edwin Taylor,	Univ. Vt., '88,	Ellington.
Davis, Emory Hawkins,	Univ. Vt., '72,	Moosup.
Davis, Gnstav. Pierrepont, B.A., '66,	P. & S., N. Y., '69,	Hartford.
Davis, Warreu Russell,	Univ. Vt., '82,	Voluntown.
Davison, Luther Augustus,	Uuiv. N. Y., '82,	Hartford.
Day, Loren True,	Yale, '80,	Westport.
Dean, Heury Spalding,	Jefferson, '52,	South Coventry.

Name.	Medical Graduation.	P. O. Address.
Dean, Horace Camillus,	Univ. N. Y., '85,	New Britain.
DeForest, Louis Shepard, B.A., '79; M.A., 91,	Univ. Jena, '85,	New Haven.
Delesdernier, Horace William.	Univ. Vt., '85,	Meriden.
DeWolfe, Daniel Charles,	Univ. Vt., '86,	Danbury.
Dibble, Frederick Levi,	Yale, '59,	New Haven.
Dickinson. Francis Lemuel,	Yale, '40,	Rockville.
Dimon, John Nicoll,	L. I. Col. Hosp., '83,	New London.
Donahue, James Francis,	Univ. Vt., '92,	New Britain.
Donahue, Michael Joseph,	Univ. Pa., '86,	Waterbury.
Donaldson, William Henry,	Univ. N. Y., '81,	Fairfield.
Dooley, John Thomas,	Univ. N. Y., '87,	Manchester.
Douglass, Edmond Peaslee,	Univ. N. Y., '89,	Groton.
Dontteil, Henry,	Yale, '79,	New Britain
Dowling, John Francis,	L. I. Col. Hosp., '90,	Thompsonville.
Down, Edwin Augustus,	P. & S., N. Y., '87,	Hartford.
Downs, Frederick Bradley,	Univ. N. Y., '78,	Bridgeport.
Dunham, Martin Van Buren,	Harvard, '67,	Greenfield Hill.
Dwyer, John,	Univ. N. Y., '71,	Hartford.
Edgerton, Francis Daniels, A.M., '61,	Univ. Vt., '61; P. & S., N.Y., '64,	Middletown.
Eggleston, Jeremiah Dewey,	P. & S., N. Y., '79,	Meriden.
Elcock, Harry Alfred,	Yale, '91,	New Haven.
Eliot, Gustavus, B A., '77; A.M., 82,	P. & S., N. Y., '80,	New Haven.
Ellis, Richard,	P. & S., N. Y., '88,	Danbury.
Ellsworth, Pinckney Webster, B.A., '36; M.A.,	P. & S., N. Y., '39,	Hartford.
Ensign, Robert Eleazer,	Albany, '57,	Berlin.
Fairbanks, William,	Bellevue, '91,	Norwich.
Falk, Jacob M.,	Alb'y Med. Col., '84,	New Haven.
Fenn, Ava Hamlin,	P. & S., Balt., '86,	Meriden.
Ferguson, George Dean,	Univ. N. Y., '79,	Thomaston.
Ferguson, Merritt Sidney,	Univ. Vt., '75,	New London.
Ferris, Anna Jackson,	Wom. Med., Pa., '74,	Meriden.
Ferris, Harry Burr, B.A., '87,	Yale, '90,	New Haven.
Field, Albert,	L. I. Col. Hosp., '67,	East Hampton.
Finch, Geo. Terwilliger, B.A., M.A.,	Bellevue, '77,	Thompsonville.
Fisher, William Edwin,	Univ. Pa., '76,	Middletown.
Fiske, Isaac Parsons,	Univ. N. Y., '75,	Southington.
Fitch, Clarence Lovell,	Dartmouth, '81,	New Haven.
Fleischner, Henry,	Yale, '78,	New Haven.
Flint, Eli Percival,	Yale, '79,	Rockville.
Follansbee, Willard Francis,	P. & S., Chic., '86,	Danbury.
Foot, Charles Jenkins, B.A., 83,	Harvard, '87,	New Haven.
Ford, William J.,	Univ. N. Y., '84,	Washington.
Foster, John Pierpont Codrington, B.A., '69,	Yale, '75,	New Haven.
Foster, William Wooden,	Harvard, '82,	Putnam.
Fox, Charles Anson,	P. & S., N. Y., '81,	Hartford.
Fox, Charles James,	Univ. N. Y., '76,	Willimantic.
Fox, Edward Gager,	Univ. N. Y., '83,	Wethersfield.
Fox, Roswell,	Univ. N. Y., '47,	Wethersfield.
Franklin, Spencer,	Univ. N. Y, '89,	Greenwich.
Franklin, Thomas Morris,	Univ. N. Y., '47,	Greenwich.
French, Eugene Cowles,	Univ. Mich., '82,	Watertown.

Name.	Medical Graduation.	P. O. Address.
French, Wm. Freeman, B.A., M.A.,	Univ. N. Y., '84,	Noroton.
Froelich, Charles Edward,	Copenhagen, '70,	Hartford.
Frost, Charles Warren Selah,	P. & S., N. Y., '80,	Waterbury.
Fuller, Austin Brainard, B.A.,	Yale, '66; Yale, '92,	New Haven.
Fuller, Horace Smith, A.B., '58; A.M., '61,	P. & S., N. Y., '65,	Hartford.
Garlick, Samuel Middleton,	Harvard, '77,	Bridgeport.
Gartland, John Lawrence,	Univ. N. Y., '91,	Meriden.
Gaylord, Chas. Woodward, B.A., '70,	Yale, '72,	Branford.
Gaynor, Louis Joseph,	Univ. N. Y., '91,	New Haven.
Geib, Henry Philip,	Bellevue, '69,	Stamford.
Gilbert, Samuel Dutton, B.A., '69,	Yale, '71,	New Haven.
Gillin, Charles Adelbert,	Univ. N. Y., '83,	Berlin.
Gilnack, Frederick, E. E ,	P. & S., N. Y., '67,	Rockville.
Girard, Charles Herménégilde,	Vict., Montreal, '90,	Willimantic.
Gladwin, Ellen Hammond,	W. Med., N. Y., '72,	Hartford.
Godfrey, Charles Cartlidge,	Dartmouth, '83,	Bridgeport.
Goodrich, Alfred Russell,	Berkshire, '46,	Vernon.
Goodwin, Ralph Schuyler,	P. & S., N Y., '66,	Thomaston.
Goodyear, Robert Beardsley,	Yale, '68,	North Haven.
Gorham, Andrew Bennett,	Yale, '79,	Wilton.
Gorham, Frank,	Yale, '76,	Lyons Plain.
Grannis, John Henry,	Yale, '68,	Old Saybrook.
Graves, Charles Burr, B.A., '82,	Harvard, '86,	New London.
Graves, Frederick Chauncey,	Univ. N. Y., '88,	Bridgeport.
Gray, Henry,	Dartmouth, '48,	Bloomfield.
Gregory, James Glynn, B.A., '65,	P. & S., N. Y., '68,	Norwalk.
Gridley, Ida Rachel, A M., '86,	P. & S., Bost., '89,	Collinsville.
Griggs, Edward Luther,	L. I Col. Hosp., '64,	Waterbury
Griggs, Oliver Burnham,	Univ. N. Y., '47,	Willimantic.
Griswold, Edward Hammond,	Univ. N. Y., '78,	East Hartford.
Griswold, Frederick Pratt,	P. & S., N. Y., '76,	Meriden.
Griswold, Julius E.,	Univ. N. Y., '78,	Portland.
Griswold, Hamilton Byron,	Univ. Vt., '86,	Gaylordsville.
Griswold, Roger Merwin,	Univ. N. Y., '75,	Birmingham.
Griswold, Rufus White,	P. & S., N. Y., '54,	Rocky Hill.
Griswold, Wm. Loomis, Ph.B., 81,	P. & S., N. Y., '85,	Greenwich.
Guild, Frank Eugene,	L. I. Col. Hosp., '85,	Windham.
Hall, Edward Dormenio,	Harvard, 73,	Meriden.
Hallock, Frank Kirkwood, A.B., A.M., 82,	P. & S., N. Y., '85,	Cromwell.
Hallock, Winthrop Bailey,	L. I. Col. Hosp., '64,	Cromwell.
Hammond, Henry Louis, Ph B., '64,	Harvard, '66,	Killingly.
Hanchett, Thatcher Swift,	Bellevue, '64,	Torrington.
Hanlon, Nicholas J.,	'91,	Waterbury.
Harriman, Patrick Henry,	Univ. N. Y., 84,	Norwich.
Harris, George Robert,	P. & S., N. Y., '85,	Norwich.
Harris, George Washington,	P. & S., N. Y., '57,	Lyme.
Hart, Charles Remington,	P. & S., N. Y., '59,	Bethel.
Haskell, Charles Nahum,	Univ. Vt., '90,	Bridgeport.
Hastings, Panet Marshall, A.B., '38, A.M.,	P. & S., N. Y , '42,	Hartford.
Haven, William Chadbourne,	Univ. N. Y., '77,	Coventry.
Hawkins, Wm. Whitney, B.A., 79,	Yale, '81,	New Haven.
Hawley, George Rufus,	L. I. Col. Hosp., '92,	Danbury.
Hayes, John Francis,	Univ. N. Y., '79,	Waterbury.

Name.	Medical Graduation.	P. O. Address.
Hazen, Miner Comstock.	Univ. Mich., '55,	Haddam.
Heady, Elias Buel,	Yale, '72,	Milford.
Hexamer, Carl Reisig, B.S., 83.	P. & S., N. Y., '86,	Stamford.
Hibbard, Nathaniel, A.B., '78,	Harvard, '82,	Danielsonville.
Higgins, Royal Lacey.	Bellevue, '67,	Norwalk.
Higgins, William Lincoln,	Univ N. Y., '90,	South Coventry.
Hill, Charles Edwin, B.A., '76,	Harvard, '79,	East Killingly.
Hill, Edwin Allen,	Harvard, '50,	East Killingly.
Hill, Seth,	Yale, '66,	Stepney.
Hills, Thomas Morton,	Yale, '63,	Willimantic.
Holbrook, Lowell,	Univ. N. Y., '49,	Thompson.
Holmes, Arthur Almond,	Harvard, '65,	Bridgeport.
Holmes, George James,	Albany, '82,	New Britain.
Holmes, Walter Hamilton, A.B., '75,	Harvard, '79,	Waterbury.
Horton, William Wickham,	Univ. N. Y., '79,	Bristol.
Hotchkiss, Norton R.,	Univ. Md., '91,	New Haven.
Hough, Henry Wightman,	Yale, '36,	Putnam.
Houghton, Alfred Swift,	P. & S., N. Y., '80,	Wallingford.
Houghton, Simon Willard,	Bellevue, '79,	Hazardville.
Howard, Arthur Wayland,	Univ. N. Y., '90,	Wethersfield.
Howard, John,	Dartmouth, '81,	Hartford.
Howe, Harmon George,	Univ. Vt., '73; P. & S., N. Y., '75,	Hartford.
Hoyt, Curtis Clark,	P. & S., N. Y., '87,	Bridgeport.
Hubbard, Charles Henry,	Yale, '60,	Essex.
Hubbard, Robert,	Yale, '51,	Bridgeport.
Hubbard, Stephen Grosvenor, M.A., '60,	Dartmouth, '43,	New Haven.
Hudson, William Miller, B.A., '53,	Jefferson, '55,	Hartford.
Hughes, Oliver John Davis,	L. I. Coll. Hosp., '75,	Meriden.
Hulbert, William Sharon,	Univ. N. Y., '80,	Winsted.
Huntington, Samuel Henry,	Yale, '76,	Norwalk.
Hurlbut, Augustus Moën, B.A., '76,	P. & S., N. Y., '79,	Stamford.
Husinsky, Moses Jacob,	Yale, '92,	New Haven.
Ingalls, Phineas Henry, A.B., '77; A.M., '82,	P. & S., N. Y., '80,	Hartford.
Irving, Samuel Wellington,	Yale, '91,	New Britain.
Ives, Robert Shoemaker, B.A., '64; M.A.,	Yale, '66,	New Haven.
Jarvis, George Cyprian,	Univ. N. Y., '60,	Hartford.
Jennings, George Herman,	L. I. Coll. Hosp., '75,	Jewett City.
Johnson, Frederick Eugene,	Univ. N. Y., '79,	Mansfield.
Johnson, Marcus Morton, Ph B.,	Univ. N. Y., '77,	Hartford.
Joslin, George Harvey,	Univ. N. Y., '87,	Hamden.
Judson, Walter, B.A., '64; M.A., '67,	P. & S., N. Y., '70,	New Haven.
Judson, William Henry,	Jefferson, '78,	Danielsonville.
Kane, Thomas Francis,	Bellevue, '87,	Hartford.
Kean, Mrs. L. Darnstadt,	Wom. Med., Pa., '87,	Hartford.
Kendall, John Calvin, B.A., '70,	P. & S., N. Y., '75,	Norfolk.
Keniston, James Mortimer,	Harvard, '71,	Middletown.
Kent, John Bryden,	Harvard, '69,	Putnam.
Ketchum, Leander Young,	Univ. Vt., '80,	Woodbury.
Kimball, Rush Wilmot,	L. I. Coll. Hosp., '90,	Norwich.
Klenke, Henry Frederic,	Univ. N. Y., '92,	New Haven.
Knight, George Henry,	"Univ.," (?) '80,	Lakeville.

Name.	Medical Graduation.	P. O. Address.
Knight, William Ward,	Univ. N. Y., '76,	Hartford.
Knight, William Wilshire,	Berkshire, '68,	Sharon.
Lacey, William Frederick,	Yale, '44,	Danbury.
Lambert, Beujamiu Lott,	Univ. N. Y., '83,	New Haveu.
Lanson, George Newton, B.A.,	Yale, '92,	Middle Haddam.
Lander, Robert, M.A.,	Yale, '71,	Bridgeport.
LaPierre, Juhan,	Bellevue, '71,	Norwich.
LaRue, Omer,	Vict. Montreal, '71,	Putnam.
Lawlor, Timothy Chris. Ambrose,	Bellevue, '92,	Rockville.
Leavenworth, Daniel Carroll,	Yale, '65,	New Haven.
Leighton, Alton Winslow,	Yale, '79,	New Haven.
Leonard, Elbridge Knowlton,	Conu. Med. Soc., '66,	Rockville.
Lewis, George Fraucis,	Yale, '65,	Collinsville.
Lewis, George Frederick, B.A., '77,	Yale, '84,	Stratford.
Lewis, John Benjamin,	Univ. N. Y., '53,	Hartford.
Lewis, William Albert,	Harvard, '51,	Moosup.
Lindsley, Charles Augustus, B.A., '49; M.A.,	Yale, '52,	New Haveu.
Lindsley, Chas. Purdy, Ph.B., '75,	Yale, '78,	New Haven.
Look, Frank Byron,	Bowdoin, '84,	Middletown.
Loomis, Francis Newton, B.A., '81,	Yale, '83,	Birmingham.
Lowe, Russell Walter,	Univ. N. Y.,' 89,	Ridgefield
Luby, John Francis, Ph.B., '76,	P. & S., N. Y., '78,	New Haven.
Lynch, John Charles,	Univ. N. Y., '86,	Bridgeport.
Lyon, Edwin Bradbury,	Berkshire, '62,	New Britain.
Lyon, Irving Whitall,	Univ. Vt., '62; P. & S., N. Y., '63,	Hartford.
Lyons, Andrew Wolff,	Columbus, '76,	Bridgeport.
MacLaren, William Steveuson,	P. & S., N. Y., '89,	Litchfield.
Madden, Edward George,	Yale, '85,	New Haven.
Maher, Stephen John,	Yale, '87,	New Haven.
Mailhouse, Max, Ph.B., '76,	Yale, '78,	New Haven.
Marcy, Robert Adrian,	Univ. N. Y., '82,	New Preston.
Marsh, Arthur Washburn,	Univ Vt., '82,	Westville.
Martin, Thomas Francis,	Univ. N. Y., '74,	Bridgeport.
Mason, Jarvis King, B.A., '55; M.A., '59,	Harvard, '61,	Suffield.
Matthewson, Earl,	P. & S., N. Y., '79,	Montville.
Matthewson, Rufus Wellington,	P. & S., N. Y., '35,	Durham.
May, Austin Ela,	Univ. Vt., '79,	Bethel.
May, Jacob,	Rush, Chicago, '76,	Bridgeport.
Mayberry, Franklin Hayden,	Univ. Vt., '85,	Burnside.
Mayer, Nathan,	Cincinnati, '57,	Hartford.
McCabe, Edward Michael, B.A., '84,	Yale, '87,	New Haveu.
McDonald, Edward Walsh,	Univ. N. Y., '71,	Waterbury.
McGaughey, James David,	Jefferson, '70,	Wallingford.
McKnight, Everett James, B.A., '76,	P. & S., N. Y., '79,	Hartford.
McNeil, Rollin,	Yale, '62,	New Haven.
Meeks, Edwin Joseph,	Bellevue, '90,	Stamford.
Meeks, Harold Albert,	Bellevue, '90,	Meriden.
Miller, George Root,	P & S., Balt., '86,	Hartford.
Moody, Mary Blair,	Buffalo. '76,	New Haven.
Morgan, Wm. Deunison, A.B., '72.	P. & S., N. Y., '76,	Hartford.
Morrell, Frederick Augustus,	L.I. Col. Hosp., '85,	Putnam.
Morrisey, John Joseph, B.S.,	Univ. N. Y., '84,	Hartford.
Muuger, Carl Eugene, Ph.B., '80.	P. & S., N. Y, '83,	Waterbury.

Name.	Medical Graduation.	P. O. Address.
Munger, Elisha,	Yale, '75,	New Loudon
Munger, Walter Seward,	Yale, '55,	Watertown.
Murphy, Michael Daniel.	Bellevue, '84,	Middletown.
Murphy, Walter Graham,	Alb'y. Med. Col., '90,	Granby.
Nelson, Abiel Ward,	Harvard, '61,	New London.
Newton, Cyrus Brownlie,	Yale, '56,	Stafford Springs.
Newton, Matthew Turner,	Yale, '51,	Suffield.
Nichols, Edward Payson, A.B., '48; A.M., '51,	P. & S., N. Y., '52,	Killingworth.
Nickerson, Nehemiah,	N. Y., Med. Col., '57,	Meriden.
Nicoll, John,	Yale, '54,	New Haven.
Noble, Henry Smith, A.B., '59,	P. & S., N. Y., '71,	Middletown.
North, Alfred, A.B., '58,	P. & S., N. Y., '61,	Waterbury.
North, James Howard,	L. I. Col. Hosp., '73,	Goshen.
Noyes, Selden Walkley,	Univ. Pa., '68,	Haddam.
Ober, George Engene,	Univ. Vt., '90,	Bridgeport.
O'Connell, Thomas James,	P. & S., Balt., '92,	East Hartford.
O'Connor, Matthew Chas., A B., '69,	P. & S., N. Y., '73,	New Haven.
O'Connor, Patrick Thomas,	Bellevue, '92,	Waterbury.
O'Flaherty, John,	Albany, '64,	Hartford.
O'Hara, Bernard Augustine,	Bellevue, '82,	Waterbury.
Olmstead, James, B.A., '72.	Yale, '74,	Middletown.
Osborn, George Wakeman, B.A., '84,	P. & S., N. Y., '87,	Bridgeport.
Osborne, Curtiss Hinman,	Yale, '77,	Southport.
Osborne, Oliver Thomas,	Yale, '84,	New Haven.
O'Sullivan, Thomas Jeffersou,	Bellevue, '76,	Birmingham.
Paddock, Lewis Sloat, M.A.,	N. Y., Med Col., '54,	Norwich.
Park, Charles Edwin,	Yale, '81,	New Haven
Parker, Julian Newell,	Yale, '67,	S. Manchester.
Parker, Theodore Raymond,	Univ. N. Y., '80,	Willimantic.
Parmele, George Luther, D.M.D.,	L. I. Col. Hosp., '69,	Hartford.
Parsons, Edward Field, A.B., '48,	P. & S., N. Y., '58,	Thompsonville.
Peckham, Lucy Creemer,	Wom. Med., Pa., '85,	New Haven.
Peck, Anthony,	Univ N. Y., '75,	Norwich.
Perkins, Charles Harris,	P. & S., N. Y., '91,	Norwich.
Perkins, William Sheldon Clark,	P. & S., N. Y., '60,	Norwich.
Philip. Rosavelle Gardner,	Wom. Med. Col., N. Y. Inf., '75.	Stamford.
Phillips, Alfred Noroton,	P. & S., N. Y., '83,	Stamford.
Phinney, Elisha,	Yale, '35,	Yantic.
Pierce, Elbridge Worthington,	Univ. N. Y., '85,	Meriden.
Pierce George Howard, B.A., '82,	Yale, '86,	Danbury.
Pierson, Samuel,	P. & S., N. Y., '81,	Stamford.
Pinney, Charles Hitchcock,	P. & S., N. Y., '53,	Derby
Pinney, Royal Watson,	P. & S., N. Y., '88,	Birmingham.
Platt, William Logan,	P. & S., N. Y., '81,	Torrington.
Ploetz, Alfred,	Univ. Zürich, Switzerland, '90,	Meriden.
Plumstead, Matthew Woodbury,	Jefferson, '87,	East Haddam,
Plunkett, Henry Bernard,	Univ. N Y., '91,	Rocky Hill.
Pons, Louis Jacques,	Univ. Vt., '85,	Roxbury.
Porter, George Loring,	Jeffersou, '62,	Bridgeport.
Porter, William, Jr,	Chic. Med. Col., '81,	Hartford.
Potter, Frank Edward,	P. & S., N. Y., '89,	Portland.
Powers, Frederick,	P. & S, N. Y., '70,	Westport.

Name.	Medical Graduation.	P. O. Address.
Poyer, John Baptist,	Dartmouth, '86,	New Britain.
Pratt, Edward Loomis,	Univ. N. Y., '84,	Winsted.
Pratt, Elias,	P. & S., N. Y., '87,	Torriugton.
Purdy, Alexander Marshall,	Univ. Vt., '84,	Mystic Bridge.
Rainville, Frederick Edmund,	Univ. Vt., '91,	Wauregan.
Rafftery, Thomas Harry, B A. '76, M.A., Holy Cross, '86,	Worcester, '86, P. & S., N. Y., '86,	Stafford Spriugs.
Rankin, Chas. Goodrich, A.M., '84,	Chic. Med. Col., '86,	Glastoubury.
Reillly, James Michael,	Yale, '78,	New Haven.
Reynolds, Herbert Sumner,	Univ. N. Y., '81,	Clinton.
Rice, Frederick Augustus,	Bellevne, '76,	Bridgeport.
Richardsou, Dana Putnam,	Harvard, '82,	Saudy Hook.
Richardson, Dwight Alphonzo,	Yale, '81,	Sheltou.
Ring, Henry Wilson, A.B., '79; M.A.,	Me. Med. Col., '81,	New Haven.
Rising, Henry Martin,	Yale, '68,	S. Glastonbury.
Risley, Stephen Goodale,	Univ. N. Y., '46.	Rockville.
Robbins, James Watson,	Bellevue, '80,	Naugatuck.
Roberts, Edw. Kilbourne, Ph.B., '78,	Yale, '80,	New Haveu.
Robinson, Myron Winslow,	Berkshire, '60,	Colchester.
Robinson, Paul Skiff,	Yale, '91,	Stony Creek.
Robinson, Rienzi,	L. I. Col. Hosp., '69,	Danielsonville.
Rockwell, Thomas Francis,	Univ. N. Y., '81,	Rockville.
Rodman, Charles Shepherd,	P. & S., N. Y., '68,	Waterbury.
Rogers, Charles Henry, B.A., '44,	Yale, 47,	Ceutral Village.
Rogers, Francis Joseph,	Univ. Pa., '73,	Stamford.
Rogers, Frederick,	Univ. N. Y., ' 63,	Willimantic.
Root, Edward King,	Univ N. Y., '79,	Hartford.
Root, Joseph Edward, B.S., '76,	P. & S , N. Y., '83,	Hartford.
Ruickoldt, Arthur,	Univ. Jena, '65,	New Haven.
Ruland, Fred Davis,	P. & S., N. Y., '89,	Westport.
Russell, Gurdon Wadsworth, B.A., '34; M.A.,	Yale, '37,	Hartford.
Russell, Thos. Hubbard, Ph.B., '72,	Yale, '75,	New Haven.
Russell, William Spencer,	Yale, '80,	Wallingford.
Russell, Willis Adams,	Univ. N. Y., '81,	Essex.
Ryce, Benjamin Paul,	Bellevue, '90,	Meriden.
Sanford, George Willis,	Berkshire, '36,	Simsbury.
Sanford, Leonard Jacob, M.A., '58,	Jefferson, '54,	New Haven.
Sawtelle, Frederic George,	L. I. Col. Hosp., '80,	Pomfret.
Schavoir, Frederic,	P. & S., Balt., '87,	Stamford.
Scott, Albert Lewis,	P. & S., N. Y., '85,	Danbury.
Sears, Cushmau Allen,	Univ. N. Y., '62,	Portland.
Seaver, Jay Webber, B.A., '80,	Yale, '85,	New Haven.
Sedgwick, James Theodore,	Uuiv. N. Y., '85,	Litchfield.
Segur, Gideon Cross.	P. & S., N. Y., '82,	Hartford.
Selleck, Nathaniel,	Univ. N. Y., '89,	Daubury.
Sellew, Philip Hamilton,	Jefferson, '90,	Warehouse Poiut.
Sheedy, Bryan DeForest,	Univ. N. Y., '84,	Bridgeport.
Shelton, Gould Abijah, M.A., '91,	Yale, '69,	Shelton.
Shepard, Durell,	Yale, '64,	West Haven.
Shepherd, George Reubens,	Yale, '66,	Hartford.
Shermau, Henry Arthur,	Jefferson, '88,	Putnam.
Simmons, Willard Nelson,	Univ. Vt., '89,	Tolland.
Simpson, Frederick Thomas, B.A.,	Me. Med. Coll., '84,	Hartford.
Skinner, Clarence Edward,	Yale, '91,	New Haven.
Smith, Andrew Jackson,	P. & S., N. Y., '63,	Bridgeport.

Name.	Medical Graduation.	P. O. Address.
Smith, Edward Montrose,	P. & S., N. Y.,'82,	Newtown.
Smith, Edward Wier,	McGill, Mont., '82,	Meriden.
Smith, Frank Lewis,	Univ. N. Y., '75,	Bridgeport.
Smith, Frederick Sumner, B.A., '79,	Yale, '82,	Chester.
Smith, Herbert Engene, Ph.B.,'79,	Univ. Pa., '82,	New Haven.
Smith, James Jay,	P. & S., Balt.,'88,	Willimantic.
Smith, Junius Foster,	L.I. Col. Hosp.,'90,	Brookfield.
Smith, Marvin,	Univ. N. Y., '83,	New Haven.
Smith, Newton Phineas,	P. & S., N. Y.,'82,	Norwich.
Smith, Oliver Cotton,	L. I. Col. Hosp.,'83,	Hartford.
Snow, Emerson Emery,	Jefferson, '74,	Danbnry.
Spring, Frederick,	Univ. N. Y., '85,	Nangatnck.
Stanley, Charles Everett,	Univ. Pa., '76,	Middletown.
Stanton, George Dallas,	Bellevue, '65,	Stonington.
Stanton, John Gilman,	Wnrzbnrg, '73,	New London.
Steadman, Willard George.	Bellevue, '74,	Sonthington.
Stearns, Henry Putnam, B.A., '53; M.A.,	Yale, '55,	Hartford.
Stetson, James Ebenezer,	Yale, '81,	New Haven.
Stevens, John Gale,	Yale, '84,	Monroe.
St. John, Sam'l Benedict, B.A.,'66,	P. & S., N. Y.,'70,	Hartford.
Stone, Burton Dwight,	Univ. N. Y.,'82,	Meriden.
Stone, Jay Stephen,	P. & S., N. Y.,'65,	New Britain.
Storrs, Melancthon, B.A., '52,	Yale, '53,	Hartford.
Stratton, Edward Angnstns,	Univ. N. Y., '83,	Danbnry.
Strickland, Rial,	Albany, '39,	Thompsonville.
Snllivan, Daniel Francis, A.B.,'91,	Niagara Univ.,'91,	Hartford.
Snmner, Charles Fletcher,	Univ. W. N. Y.,'40,	Bolton.
Swain, Henry Lawrence,	Yale, '84,	New Haven.
Swansey, Erastus Perry,	P. & S., N. Y., '69,	New Britain.
Swett, William Plnmmer.	Univ. Vt., '76,	Terryville.
Swift, Elisha Dean,	Univ. N. Y., '49,	Hamden.
Taft, Charles Ezra,	Harvard, '86,	Hartford.
Tanner, Alfred Herbert,	Bellevne, '74,	Brooklyn.
Taylor, John Clifton,	Mich. Univ., '91,	Scotland.
Tenney, Arthnr John, Ph.B., '77,	Yale, '83,	Branford.
Terry, James Luther, A.B., '68,	P. & S., N. Y.,'71,	Lyme.
Thompson, George,	Me. Med. Col., '89,	Taftville.
Thompson, William Henry,	Yale, '62,	New Haven.
Thomson, Edward Sanford,	P. & S., N. Y.,'92,	New Haven.
Thomson, Hiram Benson,	Trin. Univ.,Tor.,'88,	New London.
Tingley, Witter Kinney,	Bellevne, '86,	Norwich.
Tinker, William Richard,	Univ. N. Y.,'80,	S. Manchester.
Topping, Jacob Reed,	Univ. N. Y.,'82,	Bridgeport.
Townsend, Jos. Hendley, B.A.,'85,	Yale, '87,	New Haven.
Tracy, Andrew William,	McGill, Mont., '73,	Meriden.
Tracey, William Joseph,	Univ. N. Y.,'89,	Norwalk.
Treadway, William A. Bnckingham,	Univ. Mich.,'83,	Stamford.
Treadwell, Oliver Ferd., B.A., '62,	Yale, '65,	Hamden.
Tnrnbnll, Thomas,	Univ. Pa., '87,	Hartford.
Tnrner, Sylvester Wooster, B.A.,'42,	Yale, '46,	Chester.
Tnttle, Charles Alling, Ph.B.,'88,	Yale, '91,	New Haven.
Tnttle, Frank Benjamin,	Yale, '63,	Nangatnck.
Van Vleet, Peter P.,	Bellevne, '69,	Stamford.
Varno, Arthnr Joel,	P. & S., Balt.,'92,	Broad Brook.
Varno, Henry G.,	P. & S., Balt.,'82,	Thompsonville.

Name.	Medical Graduation.	P. O. Address.
Wainwright, Wm. Ang., Muhlenberg, A.B.,'63,	P. & S., N. Y., '67,	Hartford.
Walsh, Frederick William,	P. & S., Balt.,'84,	Rockville.
Warner, Abner Spicer, A.B.,'42,	Dartmouth, '48,	Wethersfield.
Warner, Horace Seely, A.B.,'81,	P. & S., N. Y.,'85,	Collinsville.
Warren, Edward Winslow, A.B. '77,	Harvard, '83,	Ansonia.
Watson, Wilbur Seymour,	L. I. Col. Hosp ,'87,	Danbury.
Way, Hervey, Ellsworth,	Univ. N. Y.,'49,	Bristol.
Webb, Daniel Meigs, B.A.,'46,	Yale, '49,	Madison.
Weed, Willis Edward.	P. & S., N. Y.,'84,	Ridgefield.
Welch, Edward Hubbard,	Yale, '76,	West Winsted.
Welch, George Kellogg,	P. & S., N. Y.,'78,	Hartford.
Welch, William Collins,	Yale, '77,	New Haven.
Weldon, John,	Univ. N. Y.,'83,	Willimantic.
Weldon, Thomas Henry,	Univ. N. Y.,'83,	S. Manchester.
Wellington, W. W.,	Univ. Vt., '89,	Terryville.
West, Redfield Benjamin,	Univ N. Y., '79,	New Haven.
Wheeler, Franklin, B.A..'47; M.A.,'50,	P. & S., N. Y.,'52,	Farmington.
Wheeler, Frank Henry, B.A.,'80,	Yale, '82,	New Haven.
White, Benjamin Walker,	L.I. Col. Hosp.,'86,	Bridgeport.
White, Frederick Olin,	Yale, '73,	New Haven.
White, Moses Clark. B.A.,'45, M.A.,	Yale, '54,	New Haven.
White, Robert Creighton,	Univ. Vt.,'89,	Willimantic.
Whiton, Francis Henry,	Dartmouth, '72,	Manchester.
Whittemore, Frank Hamilton,	Bellevue, '74,	New Haven.
Wiggin, Frederick Holme,	Bellevue, '77,	Litchfield.
Wildman, Henry Smith,	L. I. Col. Hosp.,'88,	Waterbury.
Wile, William Conrad, M.A.,	Univ. N. Y.,'70,	Danbury.
Williams, Amos Loomis,	Jefferson, '41,	Brookfield.
Wilson, Frederick Morse, A.B.,'71,	Harvard, '75,	Bridgeport.
Wilson, John Joseph,	P. & S., Balt.,'86,	Bristol.
Wilson, Samuel Allen,	Yale, '52,	Windsor
Wilson, William Patrick,	P. & S., Balt.,'90,	Wallingford.
Wilson, William Virgil,	Yale, '67,	West Haven.
Winchell, Alverd Ezra, A.B.,'57,	P. & S., N. Y.,'65,	New Haven.
Witter, William,	Yale, '65,	Norwich.
Wolff, Arthur Jacob,	Tex. Med. Col.,'76, Bellevue, '83,	Hartford.
Woodward, George Stanley, B.A., Yale, '77; Ph.B.,'88,	Univ. Pa., '91,	New Haven.
Wooster, Charles Morris,	Univ. N. Y.,'79,	Tariffville.
Wordin, Nathaniel Eugene, B.A., '70; M.A.,'74,	Jefferson, '72,	Bridgeport.
Worthington. Albert Brownell,	Yale, '47,	Middle Haddam.
Wright, Frank Walden,	Bellevue, '80,	New Haven.
Wright, John Winthrop,	Univ. N. Y.,'80,	Bridgeport.
Wright, Theodore Goodelle,	Univ. N. Y.,'65,	Plainville.
Young, Mary Rising,	Uuiv. Mich.,'76,	Bridgeport.
Zink, Walter,	Wurtzburg,	Branford.

Members noticing any errors or omissions in any part of their record will please inform the Secretary for correction in future lists.

YALE UNIVERSITY,

DEPARTMENT OF MEDICINE.

1893–94.

FACULTY.

Rev. Timothy Dwight, D.D., LL.D., President.
Moses C. White, M.D., *Professor of Pathology.*
Charles A. Lindsley, M.D., *Professor of Theory and Practice of Medicine.*
William H. Carmalt, M. D., *Professor of Surgery.*
James Campbell, M.D., *Professor of Obstetrics and Diseases of Women and Children.*
Thomas H. Russell, M.D., *Professor of Clinical Surgery and Surgical Anatomy.*
Herbert E. Smith, M.D., *Professor of Chemistry, and Dean.*
Louis S. DeForest, M.D., *Assistant Professor of Clinical Medicine.*
Oliver T. Osborne, M.D., *Assistant Professor of Materia Medica and Therapeutics.*
Harry B. Ferris, M.D., *Assistant Professor of Anatomy.*
Graham Lusk, Ph.D., *Assistant Professor of Physiology.*

OTHER INSTRUCTORS.

Professor William H. Brewer, Ph.D., *Lecturer on Sanitary Science and Public Health.*
Henry P. Stearns, M.D., *Lecturer on Insanity.*
Samuel B. St. John, M.D., *Lecturer on Opthalmology.*
Henry Fleischner, M.D., *Lecturer on Dermatology and Clinical Medicine.*
Frank H. Wheeler, M.D., *Assistant in Pathology.*
Charles J. Foote, M.D., *Demonstrator of Bacteriology.*
Henry L. Swain, M.D., *Lecturer on Diseases of Throat and Ear.*
Joseph H. Townsend, M.D., *Demonstrator of Obstetrics.*
George S. Woodward, M.D., *Assistant in the Medical Clinic.*
Louis B. Bishop, M.D., *Assistant in the Surgical Clinic.*
B. Austin Cheney, M.D., *Instructor in Obstetrics and Gynecology.*
Charles A Tuttle, M.D., *Assistant in the Surgical Clinic.*
Warren A. Spalding, *Demonstrator of Pharmacy.*

LABORATORY INSTRUCTION.

The school has new and well-equipped laboratories, and this kind of instruction is a feature of the course, there being required from each student a large amount of systematic and thorough work in chemistry, anatomy, histology, and pathology.

CLINICAL INSTRUCTION.

The system of *personal instruction* which has led to such satisfactory results in the work of this school, has been further improved under the more favorable conditions of a commodious *Dispensary Building*, which has been erected on the University grounds. The recently completed *Farnam Ward* and *Operating Theatre* have also greatly increased the facilities for instruction at the New Haven Hospital.

COLLATERAL INSTRUCTION.

In addition to the regular studies of the curriculum, medical students here have the unusual opportunities of increasing their fund of general information which arise from their residence in a great educational center. As members of the University there are open to them numerous lectures on scientific and other subjects, the scientific collections, and the free use of the University Library of 170,000 volumes.

TERMS OF ADMISSION.

Candidates for admission to the course leading to the degree of Doctor of Medicine, must be at least eighteen years old, and must present satisfactory testimonials of moral character from former instructors or physicians in good standing.

As evidence that he has had a sufficient preliminary education, each candidate must present proof that he has passed the matriculation examination of some scientific, literary, or professional college in good standing; or present testimonials from the proper officer that he has pursued the course of some high school, academy, or preparatory school, approved by the Faculty; or he must pass an examination. For particulars of which, see the annual announcement.

FEES AND EXPENSES.

Matriculation Fee (paid upon entering the school),	$ 5.00
Tuition Fee, first and second year, each,	140.00
Tuition Fee, third year,	80.00
Graduation Fee,	30.00

There are no extra expenses, except the actual cost of breakage in the Chemical Laboratory, which should not exceed $5.00, and the cost of anatomical material.

PRIZES.

The Campbell Gold Medal is awarded to that member of the graduating class who has maintained the highest rank in the examinations of the course.

The Keese Prize of $140 is awarded annually to that member of the graduating class who presents the best thesis.

GRADUATE INSTRUCTION.

The instruction here offered to graduates in medicine is intended to meet the requirements of two classes of students: first, to those who wish to review or supplement their knowledge of the regular studies of the medical curriculum, as taught in this school: and second, those who wish to fit themselves in special lines of medical work, as for the duties of a medical examiner, or for medico-legal and sanitary examinations.

For announcements and further information apply to the Dean,

DR. HERBERT E. SMITH,
NEW HAVEN, CONN.