F. D. HALDEMAN,
President Nebraska State Medical Society, 1896-'97.
PROCEEDINGS

OF THE

Nebraska State Medical Society

TWENTY-NINTH ANNUAL SESSION
1897

PUBLISHED BY THE SOCIETY
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GEORGE H. SIMMONS,
Secretary Nebraska State Medical Society.
OFFICERS
OF THE
NEBRASKA STATE MEDICAL SOCIETY.
—
1897-1898.

WILLSON O. BRIDGES, Omaha.............................................President
ROBT. MCCONAUGHTY, York.................................First Vice President
F. A. LONG, Madison......................................Second Vice President
GEORGE H. SIMMONS, Lincoln..........................Recording Secretary
H. B. LOWRY, Lincoln..................Corresponding Secretary and Librarian
W. M. KNAPP, Lincoln..........................Treasurer
The twenty-ninth annual meeting of the Nebraska State Medical Society met at the Lindell Hotel, Lincoln, May 18th to 20th. The first session was called to order at 2:30 p.m., Tuesday, the 18th, Dr. F. D. Haldeman, of Ord, president, in the chair. Thirty-seven members were present at the opening of this session. The committee on credentials reported the names of seventeen applicants for membership, and these were duly elected. The secretary proceeded to read the minutes of the last meeting, but on motion further reading of the minutes was dispensed with.

Dr. H. B. Lowry, chairman of the committee on arrangements, made the following report:

REPORT OF COMMITTEE ON ARRANGEMENTS.

Mr. President:

Your committee on arrangements begs leave to report as follows: The place of meeting for this society has been fixed at the Lindell hotel. The general session to be held in a hall on the third floor, the room we now occupy; the sessions of the sections to be held, one in this room and one in a room on the second floor, the one just beneath this.

To hold an annual meeting of this society in a hotel is an experiment, and it was not without misgivings that your committee entered into the arrangements, which, however, it is hoped may be satisfactory. The accessibility of the halls it was thought would compensate for any lack of room that might be experienced. They are fur-
nished, too, without expense to the society. Further, your committee has arranged for a banquet to be given at this hotel on the evening of the 19th instant; the arrangements with the hotel are as follows: one hundred and twenty-five plates and an orchestra of seven pieces are to be furnished for $100, that being the amount appropriated for the purpose by this society. For each plate more than 125 the hotel is to have $1; this to be paid by resident physicians, as are also the bills for wine and printing.

Tables, stationery, etc., have been provided as well as suitable rooms for displays of surgical instruments, drugs, books, etc. All without expense to the society.

Respectfully submitted,
H. B. Lowry, Chairman,
G. H. Simmons,
A. R. Mitchell,
Committee.

Lincoln, Neb., May 18, 1897.
Geo. H. Simmons, secretary, read the following:

RECORDING SECRETARY'S REPORT.

Lincoln, Neb., May 15, 1897.

Mr. President, and Members of the Nebraska State Medical Society:

In presenting this brief annual report, I take the liberty of thanking the members of this society for the honor they conferred upon me in electing me to the office of secretary.

According to your instructions the committee on publication had the proceedings of last year published in book form. Bids for printing these proceedings were received from several printers. The lowest received was that of the State Journal Company, their bid being eighty cents per page; 300 copies were printed. The form of the volume adopted was made to correspond
to that of the proceedings published in 1886-87. In sending out these proceedings, the committee decided to follow the resolution adopted in 1887, and send to only those who had paid up to date. This, of course, has left on the hands of the society many more copies than ought to be left, but as many will pay up, they, of course, will be entitled to the volume. There are in my hands now about fifty-five copies, and, as this is probably more than will be required to supply those who will pay up, I would advise the presentation of a copy to all those who join at this meeting.

I believe that this method of publishing the proceedings should be followed hereafter, and that each year the volume should be as much like the preceding one as is possible. In this manner the society would soon have a series of reports that would be valuable.

I believe further, that in publishing the proceedings in this manner each year, the members would be more likely to keep in good standing for the sake of getting these proceedings. As it is, when a member is not in attendance at a meeting, he is quite liable to let his dues go, and if he should miss a second meeting, he is more than likely to hesitate, for the sum that has then accumulated against him amounts to something. If he had some return for his dues when he did not attend, he would certainly be more likely to pay up than if it were otherwise.

During the next three days the state medical societies of Iowa, Missouri, and Illinois, besides our own, will be in session. The thought has occurred to me that it might be a good plan if these state societies could in some manner form a kind of circuit, having one follow another in such a manner that one might attend the four. My reasons for believing that this would be a good plan are the following: it would give members of the profession in one
state a chance to attend the meetings of adjoining state societies without missing their own. While this would not be of advantage to many, I am sure it would be to some. Secondly, it would give a chance for a good display of pharmaceutical preparations, surgical instruments, books, etc. I am well aware that the great advantage would be to the mercantile side, but I am of the opinion that many physicians would be glad of the privilege of examining the different new instruments, new books, etc., which they would have if the society meetings came in such a manner that these gentlemen could attend several meetings with one display.

FINANCIAL REPORT.

RECEIPTS
June, 1896, from Dr. Knapp.................$50 00
August, 1896, from Dr. Parkhurst for copy of proceedings.............. 1 00

$51 00

DISBURSEMENTS.
Postage stamps for the year .................$ 4 50
Freight on books from Dr. Wilkinson ........ 80
Express on books from same............... 40
Postal cards and printing .............. 1 75
Express and postage on proceedings...... 24 90
Rubber stamp ........................................ 50
500 stamped envelopes for first circular and blanks .............. 5 55
400 stamped envelopes for programs ....... 4 44
Exchange on two checks ................... 20
Printing as per bill attached ........... 15 50
Paid for railroad tickets to make up number for last meeting as per receipt attached .......... 6 00

$64 54

51 00

Excess of disbursements over receipts...........$13 54

Geo. H. Simmons,
Secretary.
The financial report of the secretary was referred to the auditing committee.

Dr. H. B. Lowry, as corresponding secretary and librarian, read the following report:

REPORT OF THE CORRESPONDING SECRETARY AND LIBRARIAN.

Mr. President:
As your corresponding secretary and librarian I beg to submit the following report: I have sent the transactions of the Nebraska State Medical Society to the following associations: New York City Library, Columbian Medical Library at Chicago, Illinois; San Francisco Medical Library at San Francisco, California, and to the Nebraska State University Library. I have also sent the transactions to the following state societies: Alabama, Arkansas, California, Colorado, Florida, Iowa, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Maryland, Michigan, New York, New Hampshire, North Dakota, North Carolina, Ohio, Pennsylvania, South Carolina, South Dakota, Texas, Utah—in all thirty volumes.

I have received the report of the Michigan State Board of Health for 1896, and the transactions for 1896 of the following state societies: Ohio, Colorado, Nebraska, Alabama, Iowa, New Hampshire, Texas, North Carolina, Massachusetts, and Kentucky. These, together with 450 other volumes, have been placed in the new university library building.

Our library has hitherto found lodgement in the office of the corresponding secretary, and has been knocked about the state from town to town. After this nomadic life, I congratulate this society upon the new home for its library, which is in every way all that could be desired. The university library is open every day in the school
year except Sunday from 8 o'clock A.M., till 10 o'clock P.M., and is accessible during vacation. It is presided over by a competent librarian. In the same alcove with the society's books are the libraries of the experiment station of animal industry, the physiological and the zoological departments, which contain many publications of interest to the physician. Furthermore, there is always some one about the library who has sufficient technical training and skill to enable them to make, at nominal expense, an extract upon any subject that a physician might desire.

Your librarian thinks it desirable that the society should have an accessions book of its own, and also a book plate, and that there should be blank acknowledgment cards, to be filled out and sent upon the receipt of any publication. The cost of these would be about $10, but as they would serve for a number of years the annual cost would be but trifling. As your librarian, I recommend that the amount of $10 be appropriated by this society for the aforesaid purpose.

It is further suggested that all members having reprints, should send a copy to the library, now that it has a permanent home.

Respectfully submitted,

H. B. Lowry,

Corresponding Secretary and Librarian.

Lincoln, Neb., May 18, 1897.

It was moved and carried that this report, together with that of recording secretary, except that which is referred to auditing committee, be referred to a special committee. The president appointed as such committee Drs. J. R. Greene, J. R. Haggard, and A. R. Mitchell.

Dr. Wm. M. Knapp, treasurer, made the following report, which was referred to the auditing committee:
TWENTY-NINTH ANNUAL SESSION.

TREASURER'S REPORT 1897.

W. M. Knapp, treasurer, to Nebraska State Medical Society.

Dr. Cr.

May 1, 1896, to balance in treasury... $212.18
May 20, to amount received from secretary fees new members... 115.00
Amount received on dues... 409.00

Total.......................... $736.18

CONTRA CREDIT.

By amount paid out on vouchers Nos. 1 to 7........................ $417.45
May 1, 1897, to balance in treasury... $318.73

Dr. F. D. Haldeman then delivered the president's address, which will be found on page 31.

The secretary read the report of the committee on necrology, sent in by the chairman of the committee, Dr. A. S. v. Mansfelde, who was unavoidably absent at the first session. The report was adopted by rising vote.

REPORT OF COMMITTEE ON NECROLOGY.

Mr. President, Ladies, and Gentlemen:

"France, the army, Josephine." Last words of Napoleon. Your committee, which is entrusted with the sacred duty of making the last record of those of our brothers who have been called hence from their earthly labors during the last twelve months, took the liberty of using as a text to its report the last words of the great Corsican: "France, the army, Josephine." Words which characterize the greatness of the man better than do his deeds themselves. Paraphrased, you will readily grant, they mean, "My country, my duties, and my loved ones." Could you state in shorter sentence the ambition
of every noble life? And yet such was the aim of our departed brothers.

When the call to arms resounded they marched to the field of carnage, there to shed their blood, and give their life to their country. When, in the silent hours of night, in the dreary heat of day, when their exhausted bodies claimed their right of repose; when at the height of the pleasures of life, with the cup of joy at their lips, when sickness and sorrow at their own fireside needed their ministering hand the most, ever were they ready to respond to the call of suffering humanity; their strength, their ability, were ever at the service of their fellowmen. And when returned to their own hearth, mellowed by the scenes they had witnessed, by the griefs they had assauged, by the pains they had stilled, yes, even by staying the heavy hand of death, that it might descend gently upon the afflicted, they brought sunshine to their home, happiness to wife and children, heaven to earth. And now they have laid them down to their last rest. All that life could be to them has been completed. Their lives have realized the noble aim expressed by the words of the dying Caesar: "My country, my duties, and my loved ones." Such is the record, Mr. President, which your committee desires to have inscribed upon our minutes, as well as in our memories, of our departed brothers, Drs. Edward H. Smith, Frederick N. Dick, and George Winton Johnston. Your committee further recommends that a copy of this report be made by the secretary, signed by the president, and transmitted to the families of the departed members, with expressions of our deep sympathy in their affliction. We also have appended a short biography of each of the deceased, which we recommend to be made a part of our minutes. And, finally, we move the adoption of our recommendations by
a rising vote, the last and befitting tribute we can pay to our brothers.

Edward H. Smith was born in Montreal, Canada, in March, 1858, and died at Omaha, Neb., December 27, 1896, and was buried at Fullerton, Neb., December 29, 1896. Dr. Smith graduated in medicine from McGill Medical College, Montreal, in 1881. He located at Kansas City for only a few months, and then removed to Fullerton, Neb., where he resided until his death. He became a member of the Nebraska State Medical Society at its 21st annual session held at Kearney in 1889. He also was coroner of Nance county during several years. He married Miss Mary E. Strawn in 1885. His widow, and a daughter two years old, survive him. His death was caused by Bright's disease.

Frederick N. Dick was born in Greensboro, Guilford county, North Carolina, October 4, 1842, and died at North Platte, Neb., December 29, 1896. He was a graduate of the University of Virginia in letters, and in medicine from Washington University, Baltimore, February 22, 1860. He established himself, soon after graduating, at North Platte, Neb. He became a member of the Nebraska State Medical Society at the 14th annual session held at Hastings, Neb., in 1882. Dr. Dick was a soldier in the Confederate army prior to studying medicine. A wife and five children mourn his death, which was caused by papilloma of the bladder.

George Winton Johnston was born at Pearisburgh, Va., July 30, 1851, and died at Geneva, Neb., April 21, 1897, of angina-pectoris. He was graduated in letters from Emory and Henry College, Virginia, and in medicine from Bellevue Medical College, New York, in 1872. He commenced his practice in Lynchburg, Va., remaining one year, when he removed to Fairmont, Neb., the
first permanent physician in Fillmore county. In 1876 he moved to California and returned to his old love, Fairmont, Neb. In March, 1891, he was appointed by Governor Boyd, Superintendent of the Hospital for Chronic Insane, at Hastings, Neb., and was reappointed by Governor Crounse, in 1893. He remained in these positions of trust, which he filled very creditably to himself, until March, 1895. The following year he spent at Joplin, Mo., Los Angeles, Cal., and also at Chicago, when he took a post graduate course. He then returned to Fillmore county, settling at the county seat, Geneva, where he died suddenly in the prime of manhood. Dr. Johnston became a member of the Nebraska State Medical Society at the twelfth annual session held at the city of Kearney, in 1880. He was married to Miss Emma C. McKelvey, November 23, 1880. Three sons were born to them, of whom two are living and mourning the death of the parent with their mother.

Respectfully submitted,

A. S. v. Mansfelde, Chairman,
Committee on Necrology.

REPORT OF CHAIRMAN OF MEDICAL LEGISLATION AND HYGIENE.

The President and Members of Nebraska State Medical Society, Lincoln, Neb.:

During the past year the writer acted, in conjunction with special legislative committee appointed by our worthy and esteemed president, in an effort to secure better medical legislation in our state.

In accordance with this object several meetings were held in the city of Lincoln, in combination with similar committees from both the so-called eclectic and homeopathic schools of practice.
No inducements or concessions offered by your committee were successful in overcoming opposition by the eclectic and homeopathic committees to a law providing for an examining board on State Board of Health, to examine all candidates for their certificate to practice medicine in the state of Nebraska.

A bill to this effect was therefore introduced in the senate during the past session of our state legislature by your legislative committee; this met with vigorous opposition by the other schools of practice in the state, and, being in danger of indefinite postponement by such opposition, was recommitted to senate legislative committee, the chairman of which, Dr. Grothan, will inform you of its ultimate fate.

A bill introduced, I am informed, at the request of a homeopathic member of our present State Board of Health through the untiring efforts of Senator Grothan, a member of our society (and chairman of senate legislative committee), passed both houses and is now on the state statutes as follows:

*First*—A preliminary specified educational course prior to matriculation.

*Second*—A four-years course of study of six months each—no two courses in same year.

*Third*—A fee of ten dollars ($10) for the certificate of the State Board of Health.

Whilst the combined committees of the three schools of practice were a unit on the four courses of study as a requisite in addition to the present diploma test required by the statutes, no satisfactory agreement could be reached in reference to an examining board.

My experiences as chairman of your board on medical legislation show that higher medical legislative qualifications can only be obtained through the so-called regu-
lar profession of this state, and in my opinion this society should not try to co-operate with or grant any conces­sions whatever in this direction to the other schools of practice in future efforts.

Again I would suggest that proposed medical legisla­tion in the future be made public to the regular profes­sion at large in the state prior to its introduction in the legislature, thus enabling committees in charge of same to rebut statements and rumors started by the enemies of such legislation.

In conclusion my thanks are due and hereby extended to the members of the special legislative committee appointed by our president, for their co-operation and courtesies extended to the writer, also to Dr. E. W. Lee, of this society. Respectfully submitted,

W. R. LAVENDER,
Chairman State Legislative Committee,
Nebraska State Medical Society.

The secretary asked what the society wished to do in reference to employing a stenographer for the meeting. Dr. Knapp moved that we do not employ a stenographer, but that the president appoint assistant secretaries. Dr. Sutherland thought that we ought to have a shorthand report of the discussions, as we can get no satisfactory report without one. Dr. Lowry thought that it was of no use to have a stenographer, as the past experience of the society with stenographers was very unsatisfactory. After some further discussion Dr. Knapp's motion carried.

Society adjourned till 7:30.

EVENING SESSION.

Tuesday, 7:30 P.M.

The society met in general session, the evening being devoted to the section on mental and nervous diseases.
Papers were read by Dr. C. E. Coffin, on Catalepsy, and Allied Conditions; Dr. J. M. Aikin, on a case of Amyotrophic Lateral Sclerosis; Dr. H. B. Lowry, on Progressive Muscular Atrophy; and Dr. J. L. Greene, on Treatment of Melancholia.

A motion was made to appoint two assistant secretaries, and Drs. F. A. Long and J. L. Greene were appointed.

Dr. Haldeman offered the following resolution, which was carried:

Whereas, At the coming meeting of the American Medical Association, an effort will be made to have Denver named as the next place of meeting of the Association; and

Whereas, A large sum of money has already been subscribed for the entertainment of the convention, and as 1898 is our Trans-Mississippi year, the exposition will be benefited by holding the meeting in Denver; therefore, be it

Resolved, That our delegates to the American Medical Association be instructed to work and vote for Denver.

MORNING SESSION.

Wednesday, May 19.

The society met in two divisions during the day.

MEDICAL DIVISION.

The medical division was presided over by the first vice president, Dr. J. Lue Sutherland, and was called to order at 9:15 A.M. The following papers were read: The Position of General Medicine as We View it, by Dr. W. S. Gibbs, of Omaha; The Doctor as an Educator, by J. Lue Sutherland, Grand Island; Irregular Forms of Pneumonia, by Dr. B. F. Crummer, Omaha; Periostitis following Typhoid Fever, by Dr. Willson O. Bridges, Omaha; Studies in Nebraska Parasites, by Prof. H. B. Ward, State University. Division adjourned to 1:30.
SURGICAL DIVISION.

The surgical division met at 10 a.m., and was presided over by Dr. O. Grothan. The following papers were read: (a) Report of a Case of Appendicitis; (b) Report of a Case of Tuberculosis of Os Calcis, by J. Theo. Miller, Holdrege; Operative Treatment of Hallux Valgus, by J. P. Lord; Surgery of Gall Ducts, by A. R. Mitchell; Some of the Essentials of Successful Surgery, by J. E. Summers, Jr., Omaha. Division adjourned.

AFTERNOON SESSION.

MEDICAL DIVISION.

Meeting called to order at 2:00.

The following papers were read: Report of Six Cases of Typhoid Fever and a Case of Puerperal Fever in One Family at One Time, by A. P. Haynes, of Bee; Etiology and Treatment of Membranous Croup, so-called, by Dr. H. H. McClanahan, Omaha; an Improved Stethoscope, by Dr. A. R. Mitchell, Lincoln.

The division then took up the obstetrical section. Obstetrics was the title of Dr. V. H. Coffman's paper. My Unfavorable Labor Cases in Eighteen Years' Practice, by Dr. F. A. Butler, of Harvard; Accidental Hemorrhage, a case by Dr. F. E. Beal, Papillion; Twenty Years of Obstetrics in a Country Practice, by Dr. W. B. Ely, Ainsworth.

The division adjourned at 6 o'clock.

SURGICAL DIVISION.

Meeting called to order at 2:00 and the following papers were read: Have the Surgeons Usurped the Gynecological Field, by W. O. Henry: Cancer of the Lip, by B. B. Davis; Appendicitis, H. P. Hamilton; Auto-Infection; Its Relation to Wound Healing, by C. C. Allison; What of
the Normal Salt Solution in Surgery and Elsewhere, by O. Grothan; The Bone of Contention in Railway Surgery, by Robert McConaughy. Adjourned.

EVENING SESSION.

Society called to order at 8 o'clock, Dr. Haldeman, president, in the chair. The committee on credentials presented the names of several gentlemen for membership, and these were duly elected. Dr. R. C. Moore, chairman of the committee on grievances, said that certain papers were in his hands in reference to two members, but no charges had been made in writing. It was ordered that the papers be turned over to the secretary, to be held until the committee on grievances for next year be appointed, and then to be turned over to them, provided the charges be made in writing. The special committee to whom was referred the recommendations of secretary and librarian and corresponding secretary made the following report:

Mr. President:

We, your committee to whom was referred the report of the secretary and the librarian and corresponding secretary, beg leave to make the following report: We concur in the recommendation of the secretary that the proceedings be published in book form; that the general arrangement and binding of the volume be similar to that of last year. We recommend that the secretary enter into correspondence with the officials of societies of adjoining states, and endeavor to arrange the meetings for next year upon different dates.

We recommend that the librarian be allowed the sum of $15 for the purpose of carrying into effect the plan suggested in his report for the preservation of our library,
and urge each member who has reprints of his publications made to send a copy to the librarian.

All of which is most respectfully submitted.

J. L. Greene,
J. R. Haggard,
Committee.

Dr. Everett, chairman of the auditing committee, reported verbally that the committee had examined the accounts of the secretary and treasurer, and found them correct.

The amendment to the constitution, making Lincoln the permanent place of meeting, was then taken up. A general discussion took place, the general opinion being that, while Lincoln was the most central place for the meeting, still it was for the best interests of the state that the meeting be held in different places. Dr. v. Mansfelde moved that the proposed amendment be amended, making Lincoln the meeting place on each alternate year. After some further discussion, the amendment of Dr. v. Mansfelde was adopted, and the proposed amendment to the constitution as amended was adopted.

A motion was then made, and carried, that the meeting next year be held in Omaha some time during the month of June.

The following, introduced by Dr. W. O. Bridges, was adopted:

Whereas, There will be a vacancy on the State Board of Health August 1 next; and

Whereas, The retiring member, Dr. F. D. Haldeman, has proven a very efficient and active official, giving the greatest satisfaction to the members of this society, especially; and

Whereas, Dr. O. Grothan was successful, as a member of the late legislature, in securing at a critical moment the passage of the present advance in medical leg-
islation, which is of great advantage to the cause of higher education; therefore, be it

Resolved, That the State Board of Health be petitioned by this society to appoint Dr. Grothan one of the board of secretaries in case that Dr. Haldeman cannot be reappointed.

The following telegram was read by the secretary:

MARSHAL'TOWN, IOWA, May 19, 1897.

NEBRASKA STATE MEDICAL SOCIETY:

Iowa State Medical Society sends greetings, and a pleasant meeting.

Geo. F. Jenkins,
J. T. Priestly,
Committee.

Dr. H. B. Lowry, corresponding secretary, was authorized to send a suitable reply, and that in the dispatch sent an invitation be given to the Iowa society inviting it to meet in Council Bluffs in 1898, so that the Iowa and Nebraska societies may hold joint meetings.

The committee on credentials presented the names of three applicants for membership, and these were duly elected.

ELECTION OF OFFICERS.

The society then proceeded to the election of officers with Drs. J. V. Beghtol and F. A. Long as tellers.

The first informal ballot for president resulted as follows: Willson O. Bridges, 58; J. Lue Sutherland, 20; scattering, 16.

It was moved that the ballot be made formal, and that the secretary cast the vote of the society for Dr. Bridges, and the motion carried unanimously.

For first vice president, B. McConaughy received 34 votes; P. H. Salter, 21; the balance, scattering. Dr. Gifford moved that the next ballot be limited to the two highest. Carried. The second ballot resulted as follows:
R. McConaughy, 49; P. H. Salter, 26; balance, scattering.

Dr. R. McConaughy, of York, was declared elected first vice president.

The first ballot for second vice president resulted as follows: Long, 18; Salter, 12; Miller, 12; O'Connell, 10; Roeder, 7; scattering, 9. The second ballot: Long, 37; Miller, 15; Salter, 14; scattering, 2.

Dr. F. A. Long, of Madison, was declared elected second vice president.

The president, on motion, was authorized to cast the vote of the society for Dr. G. H. Simmons, for secretary, which was done.

The secretary was instructed to cast the vote of the society for Dr. W. M. Knapp, for treasurer, and the same action was taken in reference to Dr. H. B. Lowry, who was thus declared re-elected librarian and corresponding secretary.

The following resolution was adopted:

Resolved, That the secretary be instructed to so arrange the program hereafter that gynecological and obstetrical papers be included in the same section, unless otherwise requested by the writers of the papers.

Charles Rosewater,
W. O. Henry.

Adopted.

The following bills were allowed:

Geo. H. Simmons, secretary, expenses ..................... $13.50
W. M. Knapp, treasurer, expenses ........................ 12.00

Seventy-five dollars was appropriated for expenses of secretary's office.

A motion was carried instructing the secretary to send proceedings to only those members who are in good standing.

After installation of officers the society adjourned to the banquet. This was a very enjoyable affair. After

MORNING SESSION.

Thursday, May 20.

MEDICAL DIVISION.

Meeting called to order at 9:30 a.m., Dr. W. O. Bridges in the chair. The section of obstetrics was continued, and the following papers read: The Early Diagnosis of Pregnancy, by Dr. S. C. Beede, Surprise; Effects of La Grippe on Pregnancy, by Dr. G. H. Gilmore, Murray. The section of materia medica and therapeutics had but one representative, Dr. W. F. Milroy, who read a paper on Materia Medica and Therapeutics.

In the section of ophthalmology and therapeutics the following papers were read: The Eye in Its Relation to General Medicines, by Dr. W. L. Dayton, Lincoln, Two cases of Acromegaly, with Unusual Eye Symptoms, by Dr. H. Gifford, of Omaha; The Importance of Early Operation in Intraocular Sarcoma, by Dr. D. C. Bryant, Omaha; Some remarks on the Treatment of Chronic Suppuration of the Middle Ear. Dr. Garten and Dr. Loper
both were present with papers, but as it was late, both volunteered to read their papers by title and have them published without being read, and the division adjourned to meet with the surgical section to listen to the address of Dr. Foote.

**Surgical Division.**

Division called to order at 9 o’clock, Dr. F. A. Long in the chair. The following paper was read: My Further Experience with Electrolysis in Gynecology, by Dr. Charles Rosewater, Omaha. In the section on pathology and histology, Dr. J. S. Foote, of Omaha, gave a most interesting talk on Pathology Reduced, illustrating his idea of reducing pathology to an easily understood and easily learned science, by the aid of charts. A motion was carried asking Dr. Foote to prepare his chart for publication, and also thanking him for his instructive address.

A large number of papers were ordered read by title and referred to the committee on publication, and the society adjourned at 1:30 p. m.

**New Members.**

The following new members were reported upon favorably by the committee on credentials during the session, and elected to membership:

T. B. Anderson, Medical Department, University of Pennsylvania, 1891, Broken Bow.

Frederick E. Beal, Omaha Medical College, 1894, Papillion.

Joseph E. Benton, Omaha Medical College, 1897, Central City.

A. J. Clark, Keokuk Medical College, Keokuk, Iowa, 1892, Albion.

W. F. Conwell, Bellevue Hospital Medical College, New York, 1885, Neligh.
CHARLES C. CRAWL, Omaha Medical College, 1896, Randolph.

PORTER F. DODSON, Baltimore University School of Medicine, 1889, Wilber.

H. W. FRANCIS, Omaha Medical College, 1896, Bancroft.

ALFRED P. HAYNES, Omaha Medical College, 1889, Bee.

THOMAS C. HOLLISTER, College of Physicians and Surgeons, Chicago, 1896, Louisville.

I. DILLER JONES, Omaha Medical College, 1895, South Bend.

A. L. MCKINNON, McGill University, Montreal, 1892, Havelock.

J. W. MILLER, Rush Medical College, 1884, Gibbon.

J. E. MOORE, College of Physicians and Surgeons, Baltimore, 1890, Oakland.

FRANK A. PACKARD, Medical Department University of Vermont, 1873, Kearney.

INEZ C. PHILBRICK, Woman's Medical College, Philadelphia, 1891, Lincoln.

MARY A. QUINCY, Omaha Medical College, 1896, Memphis.

JOHN B. RALPH, Rush Medical College, 1896, Omaha.

ROBERT Q. ROWSE, Medical College of Ohio, Cincinnati, 1893, Wakefield.

D. E. SEDGEWICK, Rush Medical College, 1875, York.

P. A. SUNDBURG, Keokuk Medical College, 1894, Holdrege.

E. H. SWARD, Omaha Medical College, 1896, Oakland.

WARREN H. SLABAUGH, Bellevue Hospital Medical College, New York, 1883, South Omaha.

R. C. TALBOTT, Miami Medical College, Cincinnati, 1870, Broken Bow.
NEBRASKA STATE MEDICAL SOCIETY.

Norris D. Talcott, Sioux City College of Medicine, Sioux City, Iowa, 1896, Greenwood.
Edwin M. Wilson, Omaha Medical College, 1895, North Loup.
James S. Wilson, Medical Department State University of Iowa, Iowa City, 1896, Johnson.
Geo. W. Wilson, Medical Department University of Iowa, 1863, Bertrand.

The following members registered during the session.

Ainsworth.—William B. Ely.
Albion.—A. J. Clark.
Asylum.—C. E. Coffin, Minerva M. Newbecker.
Bee.—S. P. Haynes.
Carleton.—H. C. Manary.
Central City.—E. A. Benton, W. H. Hunt.
Ceresco.—R. D. Bush.
College View.—A. N. Loper.
Cortland.—E. E. Aukes.
Columbus.—C. D. Evans.
Dannebrog.—Frank G. Salter.
DeWitt.—Edward Bates.
Douglas.—A. H. Hostetter.
Fontanelle.—J. M. Hardy.
Friend.—J. V. Beghtol, H. W. Hewit.
Gibbon.—J. W. Miller.
Grafton.—J. W. Archard.
Grand Island.—Henry D. Boyden, J. Lue Sutherland, Geo. Roeder.
Greenwood.—N. D. Talcott.
Havelock.—A. I. McKinnon.
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Harvard.—F. A. Butler.

Hastings.—Robert Damerell.

Hooper.—W. O. Wisner, M. T. Zellers.


Johnson.—James S. Wilson.

Kearney.—H. S. Bell, F. A. Packard.


Louisville.—J. A. Hasemeier, Thos. C. Hollister.

Lyons.—M. L. Hildreth.

Madison.—F. A. Long.

Memphis.—Mary A. Quincy.

Murray.—Geo. H. Gilmore.

Nebraska City.—E. M. Whitten, Cicero C. Jordan.

 Neligh.—W. F. Conwell.

Norfolk.—P. H. Salter.


Odell.—I. N. Pickett.


Ord.—F. D. Haldeman.

Osceola.—L. M. Shaw.

Papillion.—F. E. Beal.

Ponca.—J. M. O’Connell.
Red Cloud.—F. E. McKeeny.
Roca.—E. W. Demaree, H. C. Demaree.
Shelton.—E. L. Smith.
Shickley.—R. Woods.
South Bend.—I. Diller Jones.
St. Paul.—O. Grothan.
Surprise.—S. C. Beede.
Table Rock.—W. H. Wilson.
Tecumseh.—A. P. Fitzsimmons.
Tekamah.—A. D. Nesbit, Isaiah Lukens.
University Place.—J. L. Greene.
Upland.—Chas. Henry.
Wakefield.—Robert Q. Rowse.
Weeping Water.—Jas. B. Hungate.
Wilber.—Porter F. Dodson.
Yock.—W. F. Reynolds, B. F. Farley, G. W. Shidler,
Robert McConaughy, D. E. Sedgwick.
Members of the Nebraska State Medical Society:

The by-laws of our society make it the duty of your president to deliver a public address, and in the performance of this duty I ask your consideration of the subject of "Medical Experience," with which you are all more or less familiar, but which now, and evermore, must be the subject illustrated in these annual assemblies.

There are but few words in our language of more indefinite import than the word "experience." This holds with peculiar emphasis as regards the daily application of the term to medicine. In no branch of human knowledge is there a more frequent employment of the word "experience" than in medical science. To experience, a confident appeal is ever made by each party in a controversy concerning the curative efficacy of any particular remedy or plan of treatment to be adopted to remove an attack of sickness.

The public, in their excessive appreciation of the value of experience in our profession, deem no opinions wise, or ways of managing disease safe, but such as have upon them the broad impress and superscription of experience, not knowing that error finds its safest lodgment in the entrenchments of a false experience—that truth often has to combat on the open plain, unprotected by authority, and uncheered by the voice of applause, so readily bestowed on experience. The science of medicine owes much to experience, but it is an experience at once discriminative and profound. The collected light of ages
beams around her path. To the enlightened cultivators of our art, from the days of Hippocrates to the present age of the world, we are indebted for that fund of facts and rational deductions which go to constitute the science of curing diseases. No one individual, in this age, should assume to himself an original experience, completely independent of the past experience of the medical world. Indeed, the most skilful in our art pretend to nothing more than a judicious combination of the experience of the past with their own observations—an application of that knowledge derived from instruction with that acquired by personal inspection, and a careful analysis of the opinions of their predecessors, so as to build upon it a manly and self-sustained judgment. Human nature, true to itself under all circumstances and in every age, loves the luxury of delusion, and most pertinaciously clings to exhibitions of the wonderful, and often delights to yield itself up, without reserve, to an unlimited faith in the wisdom and superior skill of those who assume the ground of official dictation in matters pertaining to the knowledge and cure of diseases. One form of error rises up, received with favor, eulogized as the messenger of great good to man, endures for a season, till another one rises to supplant its older rival, and, like it, flourish in brief existence, then fades away and is forgotten. Medical experience may be either false or true. The former is due, in a great measure, to that almost universal weakness of the human family, credulity. The credulous believe extravagant accounts of the virtues of medicines, perhaps in themselves powerful, but not possessed of all the virtues ascribed to them. Credulity delights in going in constant search of novelties and things out of the ordinary. When a new remedy is suggested, such as tuberculin or antitoxin, and its virtues
lauded to the skies by the newspapers and medical periodicals, the credulous-minded physician does neither hesitate nor suspend his judgment, but rushes headlong to a sudden conclusion, and upon some very inaccurately observed, isolated case, proclaims his unlimited confidence in the article. It is in the rank soil of credulity that quackery flourishes and sends forth its luxuriant branches. There is no prominent remedy in our list of agents for the cure of disease but what has been at one time surrounded by a mist of eulogy. How many inert substances have been praised to the skies that are now quietly slumbering in the tomb of forgetfulness! Opium, mercury, and quinine are the most effective weapons of medicine. All of these have been injured, in their legitimate character as medicinal substances, by the indiscriminate praises lavished upon them. The most enlightened physicians now agree that the correct practice of medicine chiefly consists in being able to discover the true curative indications, and not medicines to answer them. The reveries of Hahnemann's subtle but prolific brain may be properly included under the head of credulity. The author of the system of Homeopathy has challenged human credulity to the utmost. Experience is, with exceeding zeal, appealed to by the homeopathic fraternity as the test and supporter of their wise, safe, and certain plan of eradicating morbid action from the system. And their experience—it is a distinct and peculiar experience—assures them that camomile flowers excite 1,480 symptoms, iron produces 228, bark 469, platinum 402, and elder flowers 116! A drop of the tincture of sarsaparilla is a strong dose, and a seven-millionth part of a grain of cucumis colocynthis acts very often with too much potency! Dr. Raue, a metaphysical genius of the land of the indefinite and abstract, has given the following, among
other cases, to prove the truth of the homeopathic therapeutics: A feeble, attenuated woman, sixty-two years old, had suffered from repeated attacks of pneumonia and difficulty of breathing; and during an acute attack of fever, pain in the side, frequent cough, etc., Dr. Raue gave her the billionth part of a drop of the expressed juice of aconite, mixed with a drachm of water. Very soon a thrilling sensation spread over her frame, a perspiration came on, the pain, fever, and cough all disappeared; and after a sound night's repose, she awoke in renovated existence, and, seizing the doctor by the hand when he visited her, she exclaimed with rapture that she was well! In a patient affected with a frightful dropsy, accompanied by great prostration of strength, coldness of the whole body, and inability to discharge more than a few drops of urine, a single very minute dose of the tincture of black hellebore relieved all the symptoms in a few days. Reason and facts are of no avail in a controversy with such medical mystics. We must deliver them over to the same category of imaginative and rapt enthusiasm as that which possessed the seething brain of Emanuel Swedenborg, who talked familiarly with angels and devils, and had revelations and visions as divine as the second sight in Scotland.

The progress of science and sound medical education is apparent in the changes of opinion now observable in the homeopathic ranks. Many of its members now speak out boldly and acknowledge their disbelief in high potencies acting homeopathically. Others claim the right to prescribe according to the dictates of their own consciences. They are now showing a disposition to drop their title, and we may reasonably expect to see the day when this delusion will be returned to the oblivion from which Hahnemann so injudiciously raised it. In review-
ing the progress of medicine, it is very evident that homeopathy has presented us with little that can be regarded as scientific medicine, though it has increased our confidence in the "vis medicatrix naturae," or masterly inactivity in some cases. Most of the great medical discoveries that have benefited mankind have been made by the regular old school of medicine. The discovery of the circulation of the blood by Harvey, of vaccination by Jenner, of auscultation and percussion by Laennec, of ether by Morton, of chloroform by Simpson, of cocaine by Carl Köller, of disease germs by Pasteur and Koch, giving us the science of bacteriology and laying the foundation of antiseptic surgery introduced by Lister,—are but a few that time permits me to enumerate; whilst homeopathy has done little but offer us a doubtful therapeutics and an incorrect materia medica. For nearly all that is truly useful and scientific, homeopathy is indebted to the works of old school physicians, whose widespread scientific attainments they have assumed to designate as allopathic ideas. They, however, have not hesitated to adopt our remedies, and to administer them in full doses. The term Allopathy is defined as being "a system of medical practice which aims to combat disease by the use of remedies which produce effects different from those produced by the special disease treated,—a term invented by Hahnemann to designate the ordinary practice, as opposed to homeopathy." I need hardly say that such a system of medicine is not, and has never been, the basis of the teaching of any regular medical school, and that the scientific practice of medicine is not limited to any such idea. A regularly educated physician, like the members of this and similar societies, is not an allopath any more than he is a homeopath, or an antipath; and it is the duty of every member of our body to reject and
deny the correctness of such a title when it is mentioned, and not permit it to be applied to him individually without explaining its erroneous application. If, as Dr. Oliver Wendell Holmes has said, "the regular old school physician must have a Greek name of this pattern, call him a pantopath, as his simple doctrine is to employ any and every remedy or agency which experience shows to be useful in the treatment of disease. Any remedy that can make a decent show for itself is sure of a trial at his hands." The old school physician does not hesitate to employ the wet pack of hydropathy or the galvanic current of electropathy, or the little pills popularly supposed to belong to homeopathy. He is not restricted in his treatment of disease by any such dogma as "contraria contrariis curantur," or the reverse. He does not attempt to relieve a fever by creating a chill; but he does diminish unnatural heat by its natural opponent, cold; he relieves thirst by drink, hunger by food; wakefulness by sleep; but he accomplishes this, as has been well said by one of our widely known medical writers (Bartholow), by "recognizing the fact that the therapeutical action of a medicine is the physiological antagonist of diseased action." Rational medicine is progressing, as it has progressed in the past, and as it will continue to progress in the future. There are two main sources opened to us for the attainment of true experience in medicine. The one direct, emanating from our own personal observation; the other flowing from the testimony of others. What is so frequently called experience deserves not that title. "The wise only profit by experience," is an adage that receives its most emphatic illustration in medicine.

A man ignorant of the fundamental principles of the science, and incapable of reasoning in a correct manner, may grow gray in the practice, and remain ignorant of
the most important truths. How often the hoary head of
inveterate error occupies the chair of authority, which
wisdom alone should fill. The most profoundly ignorant
of medicine are often those who have paced along the
deep, worn path of routine for near half a century. A
thorough teaching of the principles of medicine; an exten­sive, accurate, and profound medical scholarship, are ab­solutely demanded to qualify men to acquire knowledge
from their own observations. In vain are facts presented
to the eye of one ignorant of the principles of our science;
his is not capable of recognizing their importance, nor of
deducing from them those results which will guide him
in future cases. There are no two cases of the same dis­
 ease which are exactly alike. The endless varieties ob­served in different patients suffering under the same mal­
 ady arise from difference of constitution, diversity in modes
of life, from the distinct nature of the exciting cause, and
from the peculiar emotions which may at the time agitate
the mind. To prescribe, therefore, the same remedies
for the same disease, without a due inquiry into the state
of the system, merely because they were successful in an­
other patient, is rank empiricism.

Possessed of an accurate knowledge of the structure and
 functions of the healthy human body, and having ac­
quired from his experience a just conception of the na­
ture, symptoms, and treatment of the class of disease to
which the case under his observation belongs, the physi­
cian is well prepared to administer, not for the name of
the malady, but for the state of the system. True ex­
perience does not always grow with the progress of years.
In many instances advancing years but confirm the de­
cisions of prejudice, and add strength to the presumptu­
ousness of ignorance. Neither does the multitude of
patients which a physician may be called to attend neces­
sarily enlarge his views, or add to the vigor of his judgment. It is not the number of cases which a physician sees, but the degree of careful analysis which he makes of those which are submitted to his inspection, which constitutes true experience. Neither personal observation alone nor scientific research alone should be trusted, but the utmost use should be made of both, ignoring neither the wisdom of the past nor the discoveries of today. To be thorough in one's professional acquisitions, and to prove it in consultation at the bedside; to advance the interests of the profession, both in its scientific and general capacities, and to observe the laws imposed by the most delicate sense of professional propriety and good taste, are things which are in accord with the best traditions. Let us continue to recognize and apply medical knowledge wherever it may originate. The present stage of progress will doubtless hereafter be cited as an important period in its history. For the past few years bacteriological and clinical studies have tended to develop more and more our knowledge of the existence of specific agents in the causation of diseases. A host of diseases have been proven to be of parasitic origin. Metchnikoff and others have penetrated deeply into the mysteries of cell life, and have actually been eye-witnesses to the combat between the living animal cells and the assailing microbes. Modern scientific medicine has given us a new form of treatment, which promises favorable results in some diseases heretofore considered incurable. The serum treatment of tetanus, though not so successful as could be wished, still deserves an extension of trial. In a number of reported cases this disease has yielded to the tetanus antitoxin of Tizzoni, which at present seems to be the best prophylactic treatment known for the destruction of the tetanus bacillus. The successful treat-
ment of diphtheria by the antitoxin discovered by Behring has been firmly established.

Good results are secured in the use of Richon’s serum therapy in syphilis; anti-tubercle serum in tuberculosis of the skin; anti-streptococci serum for septicemia; and the more recent discovery of the anti-plague serum by Dr. Yersin. This is the golden age of inquiry. The movement of the day is toward specialties. That excellence follows large experience in narrow lines is obvious, but is there not reason to fear that a specialist who is not well informed, both by learning and practice, is apt to blunder? This is the great danger of the day, and the necessity of devoting a number of years in active general practice before taking up a specialty should not be overlooked.

In closing, allow me to thank you for your presence at this annual meeting, and to express my feelings of gratitude for the unexpected honor conferred upon me at the last meeting of this society, and to cherish the hope that in fulfilling the duties of this responsible position I may be sustained by your cordial co-operation. We must here engage earnestly in furthering the interests and objects of the medical profession. We have come together from all parts of the state, charged with these great responsibilities. May this, the twenty-ninth annual session of the society, be characterized by harmony and good feeling; with the blessing of Providence, may its proceedings strengthen the attachment of the medical profession, extend the boundaries of our knowledge, and promote the welfare of mankind.
AMYOTROPIC LATERAL SCLEROSIS.

BY J. M. AIKIN, M.D., OMAHA.

Whether this disease is actually as uncommon as reports seem to indicate, or if it has been unobserved and classed with those affections which it so closely simulates, is a question not yet fully solved by the medical profession.

Its symptomatology is so closely allied with progressive muscular atrophy, chronic myelitis, syringomyelia, and multiple neuritis, that a most thorough history and careful examination of the case in all its phases is necessary; also that a sufficient period of time transpire to fully establish a degenerative, rather than functional disorder.

It is not my purpose to enter into a detailed review of the symptomatology and pathology of amytrophic lateral sclerosis; for I doubt not you are all acquainted with these, or have ready access to them in your libraries, and the current medical literature by students of neurological medicine. I only wish to report a case and from it deduce the cardinal symptoms by which I arrived at my diagnosis.

Mr. A. Blank, an American, aet. fifty-six years, married, medium height, dark complexion, habits temperate, as relates to excesses in foods, drink, or venery, but intemperate as regards regularity and time for eating and sleeping.

History of his grandparents is negative. His father died at sixty-two of an alleged typhoid fever; while his mother lived to eighty-four and died of some stomach disorder. He has four brothers and three sisters living, and all well except one sister, who is very nervous. He passed through childhood and youth without any serious illness,
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and when about twenty-five years old entered the employ of a railroad company and was soon advanced to a position as conductor.

After five years service in this capacity he alleges he became very nervous, and was compelled to cease work for six or eight months, spending much of this period in bed or his room; then resuming the same work he was on and off duty for two years, when he quit the railroad service, and for the next three years engaged in mercantile pursuits, during which time he so far regained his health as to permit him to again enter the railroad service as a conductor, and by taking frequent vacations to repair his "nervous dyspepsia," and periodic attacks of hay fever. He continued this employment for six or seven years, when he had a second attack of "nervous prostration," not so protracted but more severe than the former. Following this attack he continued his duties as conductor, and for a period of about five years enjoyed better health than for any corresponding period in twenty years. Then followed a varying career of vacations and work, the former dominating, until early in 1896 he resigned all work and committed himself to his life-long advisors—the high potency disciples of Hahnemann—until February, 1897, when I first saw the patient. On first observation I noticed the anxious expression of his face, a restlessness in whatever position he assumed, and a decided emaciation of his muscles. The skin was deficient in moisture and presented a dry and anaemic appearance. Respirations 28, and heart action 100 per minute, temperature normal.

On stripping him and comparing the limbs, there was no marked difference in the degree of wasting in corresponding parts on either extremity, while the deltoids, pectoral, intercostal, abdominal, and posterior thoracic muscles were likewise greatly atrophied.
The muscles of the face and the platysma myoides were relatively better nourished than any, but a comparison of his features with a photograph made several years since reveals wasting there. Tactile sensibility and sensation to pain not much changed, but impressions from heat or cold slightly increased. The reflexes exaggerated, but diminished in power; palpation failed to reveal tenderness along spine or elsewhere, but did cause fibrillary twitchings. He walked with an uncertain movement but no pronounced ataxy, nor does he drag either extremity of the foot. He describes a well marked girdle feeling, as encircling the body just above the umbilicus, and alleges its existence for years. He has never observed any loss of power in the rectum or bladder muscles. The sexual power has been totally lost for several months, but a diminished desire remains.

There is a decided diminution in faradic irritability of the muscles. He complains of great weakness of the legs, and is positive and persistent in alleging the occasional existence for many months of neuralgic pains in both extremities and also in the trunk muscles, but did not notice the wasting till December, 1896. He complains of inability to inspire a sufficient volume of air to dilate the lungs below a line on about a level with the third costal cartilage. Repeated chemical and microscopic examinations of his urine revealed slight, but no constant, changes from the normal. He has complained, after considerable walking, of a dull pain on each side of the spine in the lumbar region; but this with his alleged neuralgic pains is all the sensory symptoms alleged. His appetite is not good, and the bowels are constipated. Mentally he is clear, but ever apprehensive lest some article of food will be too strong for his digestive powers, and the same psychical ideas obtain about any medicine, fearing it will be too strong for his stomach.
These are some of the principal objective and subjective symptoms as I have seen them in this case, and if a disease is known by physical and mental manifestations that are a departure from the physiological operations of the individual, then a particular disease must be diagnosed by certain characteristic signs and symptoms.

The fact has long been established by internal medicine, that many diseases, especially in their early history, present analogous symptoms, and the differential diagnosis is established by offering the special indications of divergence. We of this generation would belittle our intelligence if we fail to profit by the accumulated results from scientific medical research by our predecessors.

The advance in general medicine has made possible special investigation in the various departments of human physiology and pathology; moreover, in none has the advance in the past few years exceeded the truths brought above the horizon of medical thought and pathological importance than that given to the profession by students of mental and nervous affections.

Comparing the symptoms of my patient with those mapped out by authors and investigators along these lines, I have diagnosed amytrophic lateral sclerosis, scarcely believing it can be denied admission to this select circle when the cardinal and many secondary symptoms are present, and with this diagnosis, an unfavorable prognosis was given.

The diagnosis of amytrophic lateral sclerosis may be made ante mortem, with a fair degree of certainty if the patient be thoroughly examined, and the differential points between it and analogous clinical pictures constantly borne in mind. The diseases which present the greatest aggregation of points in common with it are progressive muscular atrophy, chronic myelitis, multiple neuritis, and
syringomyelia, but by close observation with repeated examinations the counterfeit will be detected. The girdle sensation, so constant and prolonged in this—as in all cases—is a symptom of inflammatory and degenerative process within the cord, and it is important to remember that nerve root degenerations of the cord are expressed by this sense of constriction or tightness as if a band were tied tightly about the part; and the muscular wasting is a sequence of interference with the anterior motor nerve roots, which, with the addition of the excessive reflex and fibrillary spasm, indicate pyramidal tract degeneration.

The absence of sensory disorder, ataxy, trophic disturbance, or visceral interference augurs integrity of the posterior columns. This observation is further strengthened, too, by the fact that when the cord or nerve roots are the seat of an irritative inflammation, acute trophic changes occur, while nerve degeneration of these parts induces slower and less pronounced changes. Moreover, the absence of muscular contractions of the "muscular dystrophy," so precisely described by Erb in his recent treatise on Myopathic Atrophy, takes this case from the group classified as Primary Myopathies. Again, the loss of power in the intercostal muscles, which here is gradual and increasing, must be a sequence of motor nerve root degeneration in the anterior spinal nerves of the dorsal division.
A TREATMENT FOR SIMPLE MELANCHOLIA.

BY JAMES L. GREENE, M.D., UNIVERSITY PLACE.

In the *British Medical Journal* of May, 1892, J. Bat­tie Tuke pointed out that the classification of insanity into mania, melancholia, and dementia was on a level with the former classification of dropsy into anasarca, acites, and hydrothorax, and asserted that the profession must abandon the psychological basis of classification and strive for a classification based upon pathological anatomy. Though five years of unparalleled advancement in medicine have passed since the publication of this paper, not one step has been taken in the direction indicated. The psychological basis of classification remains—much elaborated to be sure—but yet a stumbling block of increasing size in the pathway of this ataxic, over-named and under-nourished child, the science of psychiatry.

The observations and suggestions of a plan of treatment for simple melancholia, now presented, are derived from a somewhat careful study of some cases of this ailment that have come under my care in general practice. Some of them were patients at the different state hospitals for the insane with which I have been connected, while others are of recent date.

My object in presenting these thoughts at this time is to awaken, if possible, more interest in the general practitioner in the management of this class of cases. The general as well as the special care of persons afflicted with mental disease is usually shrouded in mystery. Even medical men in general practice seem awed when they encounter a mind diseased, and people in the ordinary
walks of life hide from the unfortunate person, or rid themselves of responsibility by sending the poor wretch behind the bars of an asylum. Whilst I would not detract anything from the specialist, I believe there should be more general professional knowledge as to the care of the insane disseminated among medical men. If nurses were better qualified and general practitioners bolder, we would not see the sad spectacle of childish old persons, nervous and perhaps wormy children, hysterical young women, persons suffering from the delirium of acute fever, or women with peritonitis being carted off to a retreat for lunatics. With the rapid increase of insanity we must have some improved methods of dealing with the milder cases at least, else our greatly increased hospital capacity will be inadequate to care for all who are loosely adjudged insane.

Insanity, like other diseases, requires skilled medical direction, but the most potent factor in the care and treatment of persons of diseased mind is a well-qualified nurse or attendant. Such persons, like poets, are born, not made. Nature must have endowed them unusual qualities of mind and body. A nurse for the insane should not be so old as to be incapable of learning more, nor so young as to think that all knowledge has been acquired. In person, strong and well-formed; in manner, all gentleness, yet firm; soft of speech, sweet in song, swift in movement, and of such amiability that no provocation, however grave, may cause the reflection of an unpleasant emotion to display itself upon the countenance; a person of rare wit, to take advantage of every word and act of the patient, and be able to turn it to the patient's good; a person of untiring energy, and, above all things, having a real love for that special work; temperate in all things, and from alcoholic beverages a total abstainer; having no religious, political, and, above all things, no medical hobbies. The
greatest curse that can come upon any patient is to have as a nurse one whom the gods have first made mad with the idea that he, or she, is a doctor. Finally, our nurse should be as scrupulously clean in mind, body, and dress as the angels are supposed to be. With such a nurse, the physician can give all his energies to the medical, moral, and dietetic management of his case, and the successful treatment of melancholia will require careful attention to each of the above modes of treatment.

Simple melancholia is a symptom produced by many morbid conditions, which may arise primarily in the brain or secondarily from depraved condition of the general system. The somatic signs are most prominent; the circulation is slow, the skin is cold and pale—except at the extremities, where the circulation is so poor as to produce cyanosis of the feet and hands; the tongue is moist, coated, and shows indentations from the teeth because of deficient tonicity; the pupils are large and respond slowly to light; the sclerotics are pearly white; the temperature is generally sub-normal; urination is sometimes profuse because of intense emotion, but even when the quantity passed is large I have almost invariably found the specific gravity near normal. If the quantity be normal the specific gravity is high; the bowels are invariably obstinately constipated, sleep is poor and troubled by painful dreams; there is generally headache at the occiput, (an anaemic headache), worse in the morning. The appetite is lost, or food may be most obstinately refused from delusion of unworthiness to eat, or of bringing others to want. This produces in some cases extreme emaciation. Sensations travel slowly. The general movements are performed with apparent effort, and the patient will, if undisturbed, sit for hours in one place, staring into space.

The word melancholia sufficiently explains the mental
phenomena occurring in this disease, and I will not enter into a description of them at this time.

In the cases that I have seen the somatic symptoms have been so pronounced as to attract immediate attention, almost to the exclusion of the psychical manifestations. An analysis of the cases that I have treated has brought me to the conclusion that the mental manifestations are due to faulty nutrition of the brain, to which cause may be added auto-intoxication, due to defective tissue metabolism and imperfect action of the emunctories of the system. Entertaining this view of the morbid physical processes the treatment that has produced best results has been that addressed to the correction of morbid physical condition, as follows:

The first thing to receive attention has been the skin, bowels, and kidneys. A general bath, with energetic massage upon the first day of the treatment, is followed by a thorough cleansing of the alimentary tract, the agent used for the latter purpose has generally been the mild chloride of mercury, followed by a saline. Subsequent to this the bath is used only for the purposes of cleanliness, but once each day, preferable in the early morning, the patient is given a thorough massage, the motions being addressed to accelerating the venous circulation. In the evening a general rubbing with a coarse crash towel or bristle brush is given, special attention being paid to the spine in both massage and the dry brushing. The bowels are kept in good condition by the use of cascara, with the addition of ox gall, if the stools show deficient secretion of bile. The feeble circulation and elimination by the bowels and skin having been provided for, the nutrition next claims our attention. Forced feeding should be resorted to in all cases and pressed, without intermission, until the patient responds by a gain in weight. The
articles of diet must be selected with special reference to
the individual case. Much good may come from adding
to the diet cod liver oil and a liberal allowance of well
aged rye whiskey.

The medicine of all others upon which I have relied
has been opium, the form, the powder, given in capsules,
when the patient would take medicine voluntarily; the
tincture has been used when force or the stomach tube
was required in the administration. The amount given
has never approached the point of tolerance. The drug
is given upon the theory that it is a brain stimulant, and
it seems to furnish just the amount and kind of stimulat­
ing effect that those overburdened and exhausted brain
cells require. The drug can be given, in these cases, for
months, and when withdrawn will leave no bad results
whatever.

The amount of active exercise should be reduced to the
minimum; the massage and dry brushing furnish all that
is required. In fact, I think the patient will do better if
he can be put into bed and kept there for a period of from
four to eight weeks, or until the process of nutrition over­
matches that of absorption by a net surplus of several
pounds.

Briefly summarized, the plan of treatment can be given
in a few words. In the order of importance I think they
are:

1. Elimination of toxic agents.
2. Forced feeding.
3. Opium.
4. Rest in bed.

While I have not attempted to discuss the mental man­
ifestations, or to suggest a plan of moral treatment ad­
dressed to the patient through the influence of mind over
mind, I cannot close the paper without warning all who
have a case of melancholia under treatment that the patient's life is in hourly danger from suicide and that of the family from the homicidal tendencies, which the painful delusions of the malady produce.
NOTES ON CATALEPSY AND ALLIED CONDITIONS.

BY C. E. COFFIN, M.D., ASYLUM.

The chairmanship of the section of mental and nervous diseases of this society having been assigned to me, and fully realizing the importance of this branch of medical science, I can but feel my inability to properly develop the subject with even sufficient fullness to bring forth the discussion, during which so often the full value of a subject may be discovered.

In every department of life constant advances are being made, and it is equally true that we are often driven back from points of apparent advantage and advancement.

While the past year has chronicled great improvement along many lines which have more or less bearing on medical and surgical subjects, still it is not easy to point out any discovery or new process which has been recently developed, which promises great results in the treatment or prevention of diseases affecting the nervous system.

While the above is true, it is equally certain that many minor details of care and treatment have been introduced and perfected, until, at the close of this society year, we find ourselves much better fitted to contend with this most difficult class of diseases than we were at its beginning.

In the recent journals and asylum publications there has been some discussion of the desirability of work for the insane.

In the treatment of some classes of the insane, I am convinced of the value and importance of employment properly adapted to their strength and condition as a
curative agent. I am satisfied that there is much in this theory of systematic, regular employment, at least of the convalescent insane. As a result of the effort to perform some useful act or labor, the patient ceases to think of himself and his unfortunate condition; the stimulus to recover, which the joy of finding themselves able to be again of use to themselves and their fellow men imparts to their poor alienated minds, is greater than that imparted by almost any other cause. The results of treatment show its great value in every institution where the careful assignment of proper labor suited to the individual cases has been made.

As opposed to the above, a few alienists have strongly advocated the absolute "rest in bed" treatment for all kinds of insanity. This is but a revival of the old theory that sufficient rest, absolute rest, would cure any disease. Like all fads, this has been carried too far; as I can but think that many cases would certainly be injured and their recovery delayed by this method, enforced as it must often be by the most perfect system of restraint, or by large doses of sedative drugs. Of course cases often present themselves, which are of such a character as to indicate positively the benefits which will be received from quiet rest in a secluded room.

Perhaps there is nothing which helps to cheer and invigorate our unfortunate patients who are suffering from many of the forms of nervous disease more than an occasional opportunity to hear good music or witness some light plays. Perhaps our friend, and former citizen of this state, Dr. Clark Gapen, carried this too far, when, as superintendent of the Illinois Eastern Insane Hospital, he regularly employed the best bands of the state at great expense to play for the patients of that institution, insisting that it was the greatest curative agent ever introduced there.
During the year much attention has been given to the study of the relations existing between tuberculosis and many nervous diseases, especially insanity. That there is a well-defined causal relation between tuberculosis and insanity can no longer be questioned. At the same time, while we are in many instances well satisfied of the one being a result of the other, still in many cases it is very difficult to demonstrate any cerebral pathological condition, and the mental alienation remains our only symptoms. Sufficient investigation, however, has been made to thoroughly establish the fact that tuberculosis, syphilis, and intemperance either in the subjects or their immediate ancestors, stand at the head of the list as causes, not only of insanity, but of the majority of nervous diseases.

Much careful study has been devoted to the effects of a multitude of experiments with toxines of different kinds. Many have been at work with the tetanus toxines, and claim to be able to secure immunity by its use. The Pasteur treatment for hydrophobia still seems to be the accepted form, and has been brought forcibly to the attention of some of our members by the occurrence of false symptoms of the disease in some of their patients, after having been bitten by rabid animals. In one of the cases my opinion was sought, and I found the patient and relatives much alarmed by the rigor-like chills and many strange sensations which were constantly following each other. But the case lacked the well-developed convulsions, etc., which mark the true hydrophobic condition. A careful course of suggestive treatment relieved the untoward symptoms, though not until he was taken to the Pasteur Institute at Chicago.

Some very interesting figures relating to the cause and results of sunstroke and its effect on the nervous system
were compiled by the Chief of the National Weather Bureau last fall, after the close of the heated season of 1896. Over 2,000 reported deaths occurred, while the effect on many of those who survived was very disastrous. A careful study of these cases, and the atmospheric temperature existing at the time of the sunstroke, shows conclusively that the great increase of danger is in proportion to the continued average high temperature. The returns show very distinctly the much greater danger to anyone who uses alcoholic beverages, as in his table No. 2, 90 per cent of the fatal cases used liquor to a greater or less extent. It is to these carefully prepared tables, by unprejudiced government officials, that we must look for accurate and unbiased data as to this additional danger which threatens the one who looks too long or too often on that which inebriates.

It is suggested in our program that I will offer some brief notes on catalepsy and its allied conditions, lethargy and trance.

All of these conditions have some points in common, and at times we may hesitate in diagnosing one or the other, without carefully watching the various manifestations for some hours or days. Every practitioner who has had much experience with nervous diseases will have seen numerous cases in which some one of these conditions was present, in a greater or less degree. Perhaps the most common source of these different states is hysteria, during the major attacks of which, it is not uncommon to discover more or less protracted muscular rigidity, etc.

Nearly all writers on nervous diseases carefully avoid much discussion of the cataleptic state, and nearly all describe it only as one of the phenomena present in attacks of hysteria.
I cannot conceive that the most marked cases, some of which are so long protracted, are at all dependent on the hysterical state.

Let me briefly cite a case:

A young man, J. H., in whom the manifestations of catalepsy were as perfectly developed as could be well imagined, was admitted to the Nebraska Hospital for the Insane in August, 1895.

The early history obtained of this case is very unsatisfactory, simply showing him to have been brought up amongst those environments which are only too apt to develop a highly nervous temperament. A spoiled child of wealthy parents, whose mother, early widowed, secured but slight moral control of her boy, who developed rapidly, and grew up without any of the restraining influences which are the result of the necessity for self-support.

For two years, or from the summer of 1893, he was regarded as not just right, and just prior to his coming here had been treated in New York for three months. While in the hospital he was a very troublesome patient, for reasons which will be readily understood.

He seemed much alarmed when first brought into the ward, and, in fact, during his stay in the hospital he seemed constantly fearful that something would hurt him, and would start, and cry out in a frightened manner whenever approached or aroused suddenly. I think this was real alarm, as the facial appearance could not be easily counterfeited.

He was very anaemic, though fairly well nourished, and persistently remained in bed, though he could get up, walk about, sit up with apparent ease and absence of exhaustion for some hours, and, in fact, perform any moderate muscular effort. Talk, he never would, except in the most limited degree, to anyone but his mother, but to
her he would usually talk freely and in an intelligent manner, and at her he would swear and curse, in a manner creditable to any old "tar," every time when she was about to leave him to go home.

For a long time he refused to eat and was fed with a nasal tube, which he sometimes mildly resisted. After a few weeks' treatment he would eat a limited amount if it was left beside his bed and the door closed. Very seldom would he make a voluntary movement when anyone was watching him; but he would eat and attend the calls of nature when alone, as well as change his position, disposing himself comfortably in bed. The peculiar muscular condition which is distinctive of the cataleptic state was perfectly developed in his case. Every part of his extremities, either the entire arm or leg, or a finger or toe, would remain in any unnatural, uncomfortable, or grotesque position in which it was placed, and its position could only be changed by overcoming the wax-like stiffness of the muscles in use. After a period varying from one-half to one minute, if not watched, the limbs regained their normal, or a comfortable position, by sudden, complete relaxation of the sustaining muscles. If carefully watched, or the least trace of suggestion given, the limbs retained their position indefinitely, no matter how uncomfortable it was. In few cases are the cataleptic symptoms as well marked as they were in this; either as to the readiness with which they could be evoked, the complete involvement of all the parts, the continuousness of the phenomena, as they could be induced at any time, and the long period of time involved.

He remained at the Nebraska Hospital for the Insane but three months, when he was transferred to the Hastings asylum in November, 1895. There has been a slow but constant progress toward recovery, until, at the present
time, he is fairly active and helpful, though still very obstinate. His physical condition is very much improved, and he has every appearance of general good health, weighing about 175 pounds. There are few, if any, cataleptic symptoms now discoverable.

I have in mind but one other case in which distinct, protracted, cataleptic symptoms were shown, and they were very imperfect. The one peculiarity of this second case was the excessive rigidity of the left arm. When extended it was very difficult for a strong man to forcibly flex it, and the same was true of forcing it into extension when fully flexed, though the patient seemed at other times to have perfect and ready control of the parts. In this symptom will be noticed that which is common to lethargy, namely, the rod-like stiffness of the limb in contradistinction to the wax-like stiffness of catalepsy.

Lethargy is occasionally seen in hysterical and neurasthenic cases, as well as in the more serious organic affections of the brain. These cases lie in a semi-stupor. The amount of consciousness present is often difficult to determine. I have observed cases where I was well satisfied that the patient was conscious of all that was going on, though one can never be certain of this, as the eyes are often persistently and obstinately closed, or apparently so, but many times I have detected them open just enough to permit them to observe what was going on, though to the casual observer they were apparently tightly closed. The patients often refrain from eating several days and usually actively resist being fed with the tube, often manifesting extreme anger when compelled to eat, bathe, or do anything against their will.

These attacks differ from trance, of which the following case is a fair example, especially in their shorter duration, and active muscular action in resisting care and treatment.
Case.—Nels Winther came to the hospital November 7, 1896. He had had no work for some time and been slowly failing in health. For a week or two he had not spoken or eaten anything, and could scarcely be induced to walk.

He was placed in bed, and, though he lay with wide open eyes, seeming to notice everything which was going on, he could not be induced to make a movement of any kind, except to close the eyes and mouth, breathe, and swallow. On the third day, after free purging, he improved rapidly, and in the afternoon walked about the ward, talking more or less freely about himself. Of course, his attending physician thought he had made a brilliant cure; but the former condition returned the next day, and continued for sixteen weeks in spite of every remedy which it seemed desirable to use. Active flagellation of the buttocks, or mild, quick strokes across the scrotum were the only things which would induce him to move at all, and these only to a very limited degree. The reflexes were exaggerated. If placed erect on his feet he could retain the position for a moment. When lying down the muscles were absolutely flaccid, the muscular condition being exactly opposite to that exhibited in catalepsy. An arm or leg raised or extended dropped like an inanimate thing. The only evidence of volition which could be detected in this case was that in letting the hand fall directly toward the face it would always be deflected to one side or the other.

He was kept on liquid diet, which he would slowly swallow when it was poured into his half opened mouth. The bowels were steadily constipated, though he was repeatedly physicked, and good movements secured. He was slowly becoming worse, more emaciated, and apparently weaker. During the sixteenth week one drop of
Oleum Tiglii was given each morning. The griping pains were severe, and there was a good deal of voluntary muscular movement exhibited. The purging was extreme, but the one drop of oil each day was continued during the week. About the fifth or sixth day numerous small, black, hard, fecal balls were passed. Some of these could hardly be crushed.

The administration of the Oleum Tiglii ceased. Active stimulating, tonic treatment was immediately begun, and in a short time the patient began to talk, and was soon up about the ward. He stated that during the period of his trance he was cognizant of all that was going on around him, but that, though he exerted all his will power to do so, it was impossible for him to speak or move.

This man is still in the hospital. He now talks freely, helps about the light work of the house, and has increased in weight at least twenty pounds. Whether he will again relapse I do not know, but there are no present indications, except those of progress toward complete recovery.
OBSTETRICS.

BY VIC OR H. COFFMAN, M.D., OMAHA.

Ladies and Gentlemen of the Obstetrical Section of the Nebraska State Medical Society:

As your chairman I have the honor to address you and present to your minds and eyes the picture, retrospective and prospective, of Obstetrics as I see it in the year 1897.

I shall not attempt a resumé of all that has gone before, nor will I portray or predict what is in futuro, or elucidate for the handmaid of the future, whose duty is inducting into this life, from nature's incubator and brooder, humanity as we shall find it. The genesis of human life and the incoming of our bodies into this world has the initial moulding process, which continues with our existence for weal or woe, not alone for the individual but a race of people and the progress of a country. Then have a care commensurate with its importance, the magnitude of which is unlimited by time and space. To us a child is born and to the Obstetrician is due to know how well it is born. To be well born is the key of life, and this duty devolves upon the skill and science of the Obstetrician.

The aborigine whose lying-in chamber is an unprovided tepee or a halt on the wayside during the march, unaided and alone, endured and underwent the physiological process of labor or travail, dividing the umbilical cord with her teeth, while she waited for nature's contractile force of the uterine muscles, to expel the placenta, arising from the knee-chest position, to resume the march
or to do duty in the camp, allowing the blood to escape at will—no binder or napkin to dam the blood, and later on the lochia in that cavity, canal, or slough of despond, till deprived of its native power of protection, till the infecting germs of sepsis proliferate and invest the generative field. Here we have no record of puerperal-fever nor meddlesome midwifery. To the credit of nature's antiseptic (fresh blood) must we ascribe this protectorate. Contrast, if you will, modern civilization aided by the edict of the accoucheur that the recumbent posture must be maintained at all hazards, and the bed-pan must be used when the bowels and bladder come to be relieved. Under all circumstances, this too literally carried out is to be condemned. Let your patient have the luxury of a commode, or let them turn over on their knees and place a vessel between their thighs, and allow clots and discharges to pass from the vagina, reserving the douche of sterilized water for cleanliness, and permanganate of potash—one one-thousandth—for disinfecting when necessity is evidenced by the odor of decomposition.

"Suffer little children to come unto me, for of such is the Kingdom of Heaven" and the world. The savage did not take her new-born, unstripped, upon her knees and lather it with soap and rub it until its skin resembled a fresh lobster, and its cries and screams for mercy and pity as has been unheeded by our graduated, scientific nurse. If its swaddling clothes were not the finest, probably the leaves of the forest or grasses of the plain, were its first protection. No skin diseases or eruptions, for soap is unknown to this dusky nurse of untutored mind. It were better for modern civilized early life that it should be omitted, for the cruelty to the newly-born (unintentionally inflicted) is unequaled in any other part of life.
Then how and what to do? Though seemingly presumptuous to insinuate even a suggestion for the comfort and protection of infantile life, since it is proverbially sanctioned by acquiescence, that old women know enough to take care of children, and how often intelligent—not intelligent, but educated people—declare that they submit their children to homeopathy, but for themselves, they take theirs straight—excuse the digression—for my sympathy is enlisted in the behalf of helpless humanity. The first attention to the child should be given to its eyes, bathing with clean water and applying a bandage over the eyes, to be retained till it is washed, and if it is ever to have a general bath, now is the time. With covering still around it, it is immersed in a bath, the temperature of one hundred degrees, using the yolk of an egg in the water—barring soap.

The mother now claims our attention. The laws of nature are inevitable; their violation, certain destruction. Relentless progression in human endeavor has effected a transformation, converting the Obstetrical to a Surgical equation, and the laws of surgery apply henceforth. As Billroth wisely puts it, "Medicine becomes Surgical."

First, the immediate repair of the perineum, however slight the lesion; second, avoid obstruction to drainage—auto-infection from rectum and bladder, preferring antiseptic enemas into the bowel instead of vaginal douches exclusive, not forgetting to apply to the nipple antiseptic dressing, for many a case of suppuration of the mammary gland has its origin in an abrasion of the nipple.

**POST-PARTUM-HEMORRHAGE.**

May it not be practicable to recognize the predisposition to post-partum-hemorrhage, and being forewarned it is possible to be forearmed. Instead of the kidney
being the sole organ to stand the blunt of puerperal accidents, the liver is an undoubted accomplice. 'Tis an acknowledged fact that the condition recognized by chole mia, favors toxemia, which predisposes to hemorrhage. Then instead of relying on a fancied security in the administration of ergot, a wise security would be a preparatory dose of calomel, gamboge, and nitric acid, correcting derangements of the hepatic functions prior to labor. For the hemorrhage, the established rules should guide our actions.

PUERPERAL ECLAMPSIA.

Manifold as the causes are leading up to prominent symptoms of a lesion, none are more perplexing and past finding out than that which causes a succession of discharges of nervous force in convulsions, resulting in puerperal eclampsia. Discarding all theory and modes of treatment, none of which are classical or reliable, I desire to impress with firm conviction that there is a “balm in Gilead” (first avoid forcible dilatation to aid rapid delivery, and be more than guarded in the administration of chloroform if used at all), and this is in the administration of oleum tiglii (whether at full term or any prior stage of gestation). Five to ten drops of croton oil in olive oil, repeated if necessary, will do more to arrest convulsions, and produce dilatation, and expedite labor, than all other methods in vogue, and after delivery is accomplished, making it possible for auxiliary treatment and restoration of health. Thus in brief are my views and practice, not condemning other methods.

THE FORCEPS.

In forceps delivery, a warning only I offer, and that is not to leave the head resting too long in the pelvic cavity, guarding against too strong compression of the
head, for you are using an engine of immense power. Therefore summon all your learning, experience, and art in your skill for this process, for it is the acme of all good and great and appreciative assistance rendered the mother, and the security to the life of the child and its future well-being. To the mal-use of the forceps is due the increase of puerperal fever. Therefore my only suggestion in aid of the skill of the individual operator is the use of the liquid paraffin oil as an agent, aseptic and antiseptic, for lubricating obstetrical forceps and the hand in forceps delivery. Try it. It will not disappoint you.

ELECTRICITY IN "EXTRA-UTERINE" PREGNANCY.

The day has come with evidence in favor of this method of treatment. Its early application, its freedom from injury, no barrier to laparotomy when the surgical necessity arises, all welcome its advent. Likewise it is still in evidence for the arrest of uterine fibroids. For its proper and judicious management, you must learn from other evidence and authority, and I cite you to a work of Dr. Martin's, of Chicago (Electricity in Obstetrics), as well as other authorities of acknowledged credibility.

VOMITING IN PREGNANCY.

Whilst electricity is not the only means at our command for the relief of vomiting in pregnancy, yet it will aid our efforts oftentimes to success. This condition is one of pitiful dependence on the obstetrician, and the question arises—Shall artificial labor be produced? My judgment and experience say, "Nay, nay, Pauline," for they who try it, as a dernier resort, will book another passenger on Lethe's stream, to his chagrin and humiliation. Then what shall we do? is the cry. I have only to add my ex-
perience in the administration of croton oil—three to five drops in olive oil, after all things else had failed, has acted like a charm. In many cases of this reflected trouble, it will tax your ingenuity to its limit; therefore hesitate not to run the gauntlet of all that is known, and above all a strict adherence to frequent feeding—for alimentation must be kept up, be the method what it may.

A biblical command, “Multiply and replenish the earth.” Is there no end to this injunction? May we not modify this to suit ourselves and the condition available for physical perfection and development. Man propagates and his progeny comes forth to find the law, “survival of the fittest” dominant. I believe it practicable to limit procreation. Is it man’s mission on earth to add to the population irrespective of quality? Is the woman the slave of lust, and must she be defenseless against this tyrannical abrogation of her rights? The non-proliferation of offspring should be elective in another mode than celibacy and domestic onanism. Then what should be its restrictions? Nature has in evidence pairs—male and female—in equal numbers and proportions, and it is altogether proper, physiologically speaking, that this pairing process should be literally mating. Can there not be fraud practiced in this sphere, rendering an injustice that rebounds to society with an eternal force. It is of recent history that learned jurists find authority in his mission of protection, interposing a barrier to that which would seem destructive to individual rights, by refusing to perform the functions of his office in the routine of a marriage ceremony. How much more appropriate and humane for the obstetricians to anticipate the evil which is to follow, if by offering advice to prevent this union, and, if unheeded, arrest its destructive influences in prevention of conception, oophorotomy. “Ovariotomy”
is not a crime when there is an undoubted predisposition to degeneration, as well as lesions of the generative organs, especially in the suspected consumptive or the predisposed neurotic. We are not without authority for thus practicing on the male (see Matt. liber xix. verse 12). "There be eunuchs which have made themselves eunuchs for the Kingdom of Heaven's sake. He that is able to receive, let him receive it, therefore he is straightway preferred," at least he is rendered unable to transmit to posterity seeds of disease or a perverted progeny.

Sterility, to some patients, is productive of inharmonious relationship of husband and wife, and the obstetrician's investigation is an advance beyond the ramparts of the generative system of the would-be mother. It is unnecessary to go into detail of the gonococcus meanderings through the labyrinthian ways of tubal and lacteal domain, to account for existing barrenness, as well as the various reasons recognized as classical causes. But an accomplice is oftentimes responsible. The obstetrical field is extended even beyond gynecological specialist, to the male member, whose morbid anatomy reveals the victim, and innocence is justified, and happiness restored. This may not be one of the major problems of obstetric science and art, yet it is a condition which we find in this line of practice—only another reason for restricting the operations of the illy-prepared midwife.

Puerperal fever is a fact, notwithstanding aseptic and antiseptic rules of action. Then how shall we combat this deadly foe? And are there any new and improved methods of treatment in vogue? It is no longer a mooted question that surgical measures are resorted to with successful encouragement in the method of treatment of "puerperal fever." What was "Meigs" bloody record, with lancet in hand, instead of nail brush and al-
cohol? It may astonish you to know that some of his patients lived. He bled to syncope, and resuscitated with alcohol and ammonia, with muriated tincture of iron, and moderated and reduced the temperature and tenderness with ice, and pain with opium. Let us see wherein he is right. Let us accept the ice treatment, instead of the heat and moisture (poultices); it is a veritable antiphlogistic. Opium is always demanded in painful issues, but iron and alcohol fortify against sepsis.

A warning interposes in the too uncertain curette; accept the manipulations of the finger instead, and with continuous "antiseptic irrigations" into the uterine cavity, and be guarded against bichloride and carbolic acid poisoning. Don't slight the rectal domain; antiseptics here avoid and destroy auto-infection.

When uterine destruction has advanced beyond the limit, it is a final resort, and thoroughly practicable, to remove the uterus by abdominal section, and is advised, even where there is already peritonitis.

Anesthesia for the parturiant woman in normal labor, properly administered, and intermittingly produced,—the anesthesia (chloroform) is free from any shadow of danger, and all alleged after evils do not exist, but inexpressible is the comfort and relief thus obtained.

'Tis always understood, abnormal conditions requiring instrumental assistance or operation of whatever nature, anesthesia is imperative. Chloroform should always be preferred to ether in the lying-in chamber.

The irregular and abnormal conditions of labor are where the obstetrician's art and skill may be demonstrated with a greater degree of success, though minus the glory of capital operations.

The first stage of labor may be protracted beyond endurance, and, paradoxical as it may seem, morphia will ex-
pedite the parturient process, quieting nervous excitation, and general relaxation follows, and an abnormal becomes a normal labor under its influence.

A tetanic contraction of the uterus sometimes exists, where, in addition to the above treatment, tincture of iodine is highly recommended and the following formula: "tincture of iodine, one part; alcohol, two parts;" five drops to be taken every half hour till relief.

In puerperal mastitis, a very annoying condition, sometimes present, will yield readily to the use of phytoplacca decandra, twenty drops of the fluid extract every two hours, in addition to some of the preparations of iron, with carbolized dressings. The obstetrician oftentimes has to be the specialist and treat new-born infants afflicted with gonorrheal-ophthalmia. While it is admitted that nitrate of silver is effectual, it is very painful and therefore we should welcome some other process. It is now proposed instead, to use oxygenated-water, from one to two per cent solution, to be instilled into the eyes. It is claimed that this solution does not cause any disagreeable sensation, and the pus is immediately coagulated, forming granular masses which are easily expelled by a weak solution of boric acid.

THE EFFECTS OF ALCOHOLIC DIATHESIS UPON THE PROCREATIVE RESULTS.

Probably it is presuming and trespassing upon the patience of this section too much, to further elucidate this scope and field, wherein the obstetrician's observations at least should stimulate the humanitarian's aid with the doctors, to a degree of interposing obstacles in the path of begetting offspring by inebriates. Shakespeare's theory of wine's results—that it is a great provocative—"giveth the desire, but taketh away action" would be
literal if results were in evidence, but when history eluci­
dates to the contrary, with victims, the inmates of asy­
lums, penitentiaries, and alms-houses, with all the untold
misery following, it is an object lesson of serious import.
The child begotten at a period and under a condition of
alcoholism is as certainly doomed as the extinction of life
itself. "The dwarfing of childhood by spiritual and
physical night has its origin in a sexual congress excited
by alcoholic toxines which artificially creates hells upon
dearth and complicates a destiny of human fatality, other
than divine."

This is a subject for the doctors, lawyers, theologians,
scientists, "political-economists" to enter a combination to
destroy the greatest enemies to modern civilization. In­
toxication and pauperism, disease, crime, and imbecility
go hand in hand, and the obstetrician witnesses the ad­
vent of this pervert, and the latitude of the obstetrician
is unlimited and the resulting effects are never ceasing.
A CASE OF CRANIOTOMY.

BY J. M. HARDY, M.D., CAIRO.

The chairman of this section of our society requested me to produce a paper from my actual experience, not theoretical but practical, and the description of the case which I shall present will be given in a descriptive manner, and I will leave it with the fellows of the society to supply their own theories, and, if they think best, to criticize.

At 11 o'clock on the night of January 21, 1897, I was called to attend a case of obstetrics, and, on arriving at the home of the patient, I learned that my patient had been in labor pains for some eight hours, and that they were trying to get along without the aid of a physician, as so many of my German people commonly do.

On my first casual examination, I found that the head rested in and upon the brim of the pelvis, and concluded that, as the woman was somewhat exhausted, to administer a small amount of chloroform, apply the forceps, and deliver at once. I began these manipulations, could not move the head of the child in the least iota, and after about twenty minutes of hard work removed my instruments and made a better and more extensive investigation. I pushed the head up and back a trifle, and found to my disgust and surprise that there was a small and very hard nodule, undoubtedly of bony substance, projecting from one of the inner sides of the pelvic bones, and that the head had come down upon this projection, and, resting upon it, could go no farther. The nodule was about the size of a walnut with the hull off, i.e., about an inch in diameter.
Here was a very bad condition of affairs, for it was over fourteen miles to another physician, and by this time, one o'clock at night, a heavy drifting and blinding snow storm had set in, and it would be impossible to get another physician to the place before eight or nine o'clock in the morning, and I was reasonably certain that my patient’s failing strength would not last until that time.

I therefore concluded to do desperate work, and decided to destroy the child and be sure and save the woman. I did not have any of the instruments at all suitable for going in by way of the abdomen, and I had never seen such an operation performed; and as I had instruments suitable for doing a craniotomy, I began operations in that direction.

I placed the handkerchief with the bottle of chloroform in the hands of a woman, and bored down through the top of the head of the child, crushed head together with common obstetrical forceps, and after about twenty minutes I was gladdened to have the head come down, and immediately delivered a large male child. The secundines came along very quickly, and so far everything was all right. But I stayed with the patient until daylight, thinking that every moment would be her last. She rallied early in the morning and made as rapid and complete a recovery as any ordinary case of obstetrics.

Some of my brethren may think that it would have been preferable to have performed the Caesarian section or Porro’s operation, but, after these months, I think that under like circumstances I should do the same thing again.
PUERPERAL SEPSIS.

BY A. B. ANDERSON, M.D., PAWNEE CITY.

In presenting this short paper upon the subject of puerperal sepsis before this society, it is not my purpose to enter into any discussion of the causes or the prevention of puerperal fever, but rather to report two cases, both rapidly fatal, and from the considerations of which some practical deductions may be drawn of a totally different nature. Looking at these cases from the one standpoint, we are impressed with the different pathological conditions obtaining in the different forms of puerperal infection. We no longer concede that puerperal fever is a specific disease due always to the same germ infection, but rather to an infection of pathogenic microbes of different varieties, and influenced by the peculiar condition that exists in the puerperal woman. The protean forms of puerperal infection is well illustrated by the cases reported.

In the Journal of the American Medical Association for August, 1895, I reported a case of puerperal sepsis simulating in its symptomatology disease of the brain. In this case the temperature was very moderate, pulse rapid, respiration sighing, sphincters relaxed, allowing involuntary discharges from the bowels and bladder. She had a slight convulsive seizure; aphasia and general hebetude followed, lasting for several days.

Neither peritonitis, nor even tenderness over the abdomen existed, and all the symptoms rapidly cleared up under uterine irrigation and curettage. The first case reported to-day gives us a clear-cut case of putrid infection due to retained portions of placenta. A case in
which the bacilli of putrefaction and their ptomaines have full control. The hypertoxic infection is not only abundant and rapid, but unresisted, and a fatal toxaemia is the quick result.

February 18th was called by Mr. B. to see his wife who had been confined just one week prior to this date. He reported that she had a very speedy delivery, and had no attendance except the neighboring women; the after-birth came in a short time, and the woman seemed to be doing well, only she could not sleep and was extremely nervous. Had milk for the child until the day preceding my call, when it was not sufficient. No fever, no chills; bowels and kidneys acting well. Discharge he reported somewhat offensive, and he had learned just before starting for me that there was some swelling about the vulva. This latter statement caused me some uneasiness; yet I was unprepared for what I found on entering the sick room. I was met at the door by that intensely putrid odor which as a first salutation in a lying-in room is inclined to make a man turn back for reinforcements. At any rate he is very apt to wish he had been absent when the call came and his competitor had gotten the case. On further investigation I found a very rapid and weak pulse, scarcely perceptible at the wrist; a cold and clammy skin, eyes sunken, with dark rings around them, abdomen greatly distended, the uterus easily outlined and as large as pregnancy of six months, a swollen and sloughing vulva, a string of membranes protruding from the outlet and the odor indescribable, the patient conscious but uncomplaining except a few low moanings. There was complete anorexia and occasional vomiting, temperature below normal.

The friends were quite uneasy by this time, but seemed utterly shocked when told that I could see no possible
show for her to recover and that in my opinion she would not live twelve hours. I removed the string of membranes, cleansing vagina and vulva with hot antiseptic solutions, gave stimulants by mouth and hypodermically, but all to no purpose. The patient lived just eight hours from the time that she seemed to be ill enough to call a physician. In this case we have a typical example of that form of puerperal infection due to decomposition and absorption of the products of putrefaction,—the condition of sapraemia.

It is certainly worthy of note also that in this unfortunate case the fatal result was entirely preventable. It is not often, however, that we encounter such profound sepsis with so little external manifestation of the disease until near the end. "The virulent character of the toxic force results in a paralysis of the nerve forces." Neither the warning chill nor the alarming pain of peritonitis prepares them for the oncoming storm.

The second case was one of septic pleuro-pneumonia, in a woman who was delivered of her sixth baby on the 6th day of March, attended by the accommodating neighbor women. All went well enough to satisfy all concerned until the twelfth day, when she was taken with a severe pain in the right side under the arm. I saw the case the next day, found a temperature of 100°, pulse 120, suppressed and painful cough, bloody sputa, respirations 40, and groaning at every breath. I found a large distended tympanitic abdomen, crepitation over greater portion of right lung, with extensive dullness on percussion. The history obtained from the patient, who was perfectly conscious, was that she had been sweating rather freely, with some chilliness, but no apparent fever. The lochia had been entirely suppressed for several days, and the bowels had not moved since her confinement. It was
plainly evident that; although there had been no symp­
toms to alarm either her husband or herself, yet septic
infection had been slowly progressing for some days,
and now we had a secondary septic pleuro-pneumonia to
deal with. An unfavorable prognosis was given, which
was verified by a fatal termination thirty hours after she
was thought to be seriously ill. In this case the sur­
roundings were bad. The bed clothing and the patient's
underclothing were soiled and offensive. A towel used
for a binder was soiled, and had not been changed since
it was first put on.

It is not the intention of the writer to enter into a dis­
cussion of the management of labor cases. It is to be
supposed that every up-to-date physician manages his
confinement cases on the principle of strict surgical clean­
liness—or as near that point as circumstances will allow.
Those of us who practice in the country must frequently
be called upon to attend cases with whom we have no
previous acquaintance. The second stage of labor may
be already terminated. In these cases we must be con­
tent to clean up, disinfect the surroundings, and advise
the patient to keep herself as clean as we have left her,
as we may not see the patient again. However, the ques­
tion suggested by the cases reported is, What is our duty,
and what can be done for those cases that never come
under the care of a physician until some accident, as
they term it, is encountered. We cannot say that we
have no responsibility in these cases. There is a respon­
sibility somewhere. There is a fearful responsibility
upon those ignorant, but kindly disposed, women who
are ready upon call to officiate in the lying-in chamber.
The law against midwives does not reach them, for they
do not profess to be midwives, or to practice midwifery,
but go as a neighbor, and if a doctor is not sent for they
officiate. I know it is often true that these same kindly disposed women offer their services, and make examinations, with unwashed hands, and guess whether or not all is right. At almost every meeting of our society some report upon this subject brings about a discussion. However, as I see it, we are no nearer the remedy than we were years ago. I know of no remedy except the remedy of education. Legislation will never do it. It is a hopeful sign, I think, when we note the fact that the younger generation of women are more alive to the necessity of skillful attention at this critical period than were their mothers. The tendency is, however, after several successful confinements, to save the physician’s fee and take the risks. Now the second deduction that I would draw from such cases, which I trust are not very common—and yet it has been my unfortunate experience to encounter two in as many months—is in relation to the responsibility that we, as conservators of human life, must accept towards these cases that we never see until the enemy has full possession, and refuses to be dislodged.

As I have intimated it is in the matter of education that success must be reached, if reached at all. The best manner of bringing about the desired result is a difficult question. The fact is that the true cause is not generally located by the community. Instead of seeing as the starting point the lack of disinfection and asepsis, they say the woman has taken cold and inflammation followed. Or they hold the physician responsible for the non-recovery, although not called until the patient is in extremis, never for once seeing that a dirty bed, a dirty quilt, or an unclean hand is responsible for the dire results.
OBSTETRICS IN COUNTRY PRACTICE.

BY W. O. ROBINSON, CLARKS.

Mr. Chairman, Members of the Association:

In presenting to you this paper, I shall do so as much for the purpose of bringing out a discussion of the subject, so that I may receive instruction as well as give you instruction.

Obstetrics as practiced in a well arranged and well equipped lying-in hospital, or in a city where the accoucheur has every convenience within easy reach, or if he needs assistance has but to step to a telephone and summon some friendly brother to his aid, is far different from obstetrics in country practice where the physician has often to ride from ten to twenty miles, sometimes through rain or mud or snow, when in spite of his best precautions he finds both himself and his paraphernalia in anything but a satisfactory aseptic condition, to say nothing of his frame of mind or physical fitness for the delicate task before him. Added to all this he frequently finds the sanitary surroundings of the patient even worse than his own. Perhaps the house contains but one room, and in this the family must live, eat, and sleep. Yet into these discomforts a human being is to be born, and the physician is expected to see that it lives and thrives; that the mother is to be protected from all deleterious influences, and that never a bacillus or a microbe has an opportunity to add another victim to its already extended list of triumphs. But verily! if the "earth and the fullness thereof, the heavens above the earth, and the waters beneath the earth" are swarming with the countless millions of deadly microbes that some of these latter day
scientists would have us believe, would ever a woman, under the conditions I have described, survive the ordeal?

But I digress. The country physician is often alone in his field, as I myself am, situated many miles from any other practitioner. He is often confronted by the most trying situations and grave responsibilities; therefore, it is necessary that he should at all times be master of himself as well as his profession. He should provide himself with such instruments and remedies as may be necessary to meet any emergency that may arise, and when the emergency does arise, do not hesitate, but proceed calmly and with self-assurance to do that which his judgment tells him is proper to be done, regardless of what others present may think or advise. If the labor be a normal one, as fortunately the large majority of them are, the physician should, upon his arrival, and after paying strict regard to cleanliness and availing himself of all possible antiseptic precautions, make an examination and note all the particulars, after which the preliminary preparation should be looked after, and I trust I may be pardoned if I give somewhat explicitly the methods which seventeen years of experience have taught me to at least be much more satisfactory than the preparation usually made by the neighbor women who usually assemble upon such occasions, for in country practice a trained nurse is the greatest rarity. In preparing the bed a mattress is preferable; over this spread a sheet, then such old comforts or other material as the family can provide; over this another sheet, and then your rubber blanket, or bed pad, if you have one. After this is sufficiently covered, the bed is thoroughly protected, and after the labor is over the soiled articles can be removed and the bed is already prepared with clean linen, and the patient is undisturbed. If proper precau-
tions have been taken the woman's clothing will also be unsoiled, and nothing remains to do but to have some woman present take a sponge and warm water and thoroughly cleanse the patient, or if there is no one present who can be trusted the physician should do it himself, and never leave the room till the patient is thoroughly clean and comfortable. If it is necessary to change her clothing, the physician should superintend it himself, as the average woman will roll and tumble her around more than an ordinary well woman could undergo with safety. Place the knee on the bed beside the patient; allow her to take hold of your shoulders and slightly raise her head and shoulders from the bed, when her clothing can quickly be drawn up and removed with the least possible disturbance. In the same manner, after having her put her arms through the sleeves of her gown, her shoulders can be raised and clean clothing replaced. The patient is now in proper condition to leave, and ninety-nine times out of a hundred will make an uninterrupted recovery. It being inexpedient for me to enter into the details of the management of the more difficult varieties of labor as they occasionally occur in country practice, I will close this paper, trusting that some of the younger members of the profession, at least, may have received some suggestions that will benefit them in this branch of their work.
EFFECT OF LA GRIPPE ON PREGNANCY.

REPORT OF CASES—TREATMENT.

BY G. H. GILMORE, M.D., MURRAY.

Owing to the limited extent of my personal experience upon this interesting subject, I do not presume that this paper will contain anything new to this intelligent body of physicians; the object is to bring up for discussion the proper care of pregnant women during an attack of influenza.

From the reports in each locality here and there of the numerous cases of miscarriage, premature, and stillbirths, with an occasional death of the mother, la grippe as a factor in producing abortion is much more prevalent than was formerly supposed; or else is made the scapegoat—the bacillus abortionae accidentalis—for one of the sins of this country. The gravida, as is well known, may be affected by any disease whatsoever, whether epidemic or sporadic, but as to the amount of influence each exerts on pregnancy there is some difference of opinion. With regard to la grippe, according to Carpenter and Grandin, "Jacquemier, in 1837, found that this affection attacked nearly all the women in the maternité. He did not, however, find, as Cazeaux did, that it was more fatal in them than in non-gravid women. Cazeaux, however, noted a large number of miscarriages, either the direct consequences of the disease or the violent cramps from which the women suffered." Labadae-Lagrave, does not question the fact that influenza does often produce abortion, but disputes the theory that abortion and premature labor in influenza depend upon mechanical irritation from coughing and hyperaemia, with local con-
gestion. Many patients abort before the cough develops, and many others resist the tendency to miscarriage notwithstanding an unusual rise in temperature, although in influenza most authorities admit the fact of a general tendency to local congestion, and especially to metorrhagia. It is believed the cause of abortion in such cases is an infection from the uterine mucosa. In proof of this two cases are cited. In the first that of a girl of nineteen years, tubercular diathesis, who was admitted to the hospital suffering from broncho-pneumonia. On the eleventh day she aborted. Three days after confinement phlegmasia alba dolens developed, followed on the fifteenth day by pyemic abscess in the sternal region.

The following cases which came under the writer's care during the past winter give the various effects of influenza on pregnancy.

Case I.—On the night of January 13, I was called to see a woman, age 35 years, mother of four children, five months pregnant, with previous good health, supposed to be suffering from "brain fever", so called from the excruciating left hemicrania from which she was suffering. Two days previous she was taken with a slight chill, followed by fever, nausea and vomiting, sleeplessness, a feeling of great prostration, violent coryza, watering of the eyes, a slight bronchial cough and dull, heavy pains in the lumbar region, which occasionally became sharp, and radiated to the front and downward over the lower part of the abdomen. The temperature was 103°F Fahrenheit, pulse 97 and weak, tongue covered with a thick, yellowish coat, flat and indented by the teeth. This I considered a typical case of la grippe. The periodical pains led me to suspect threatened abortion, and a digital examination showed the os externum to be soft and patulous with a sero-sanguinolent discharge.
After prescribing phenacetine 5 grains and salol 3 grains, to be given every four hours, and Dover's powder for pain and restlessness, I left the patient. On the following morning the symptoms were unchanged, except the labor pains, which were more frequent and more violent. The cervix was found to be dilated sufficient to admit two fingers. There was profuse hemorrhage with some clots. The patient was weak and exhausted. Abortion seemed inevitable, and for the safety of the patient it was deemed best to empty the uterus.

The patient was placed in the latero-prone position, the perineum retracted, and the cervix brought into view with a Simms speculum. While the pains were strong, yet they were ineffectual, with tardy dilatation. The os externum was dilated sufficiently with a Goodell's steel dilator to deliver the foetus, which was in a state of decomposition. The placenta was adherent, and, being unable to remove it with the fingers, a wire irrigating curette bent at an acute angle was used, and the placenta removed entire. After this the uterine cavity was thoroughly irrigated with a warm carbolized douche. From the condition of the heart, anaesthesia was used during no part of the operation. The membranes were heavily congested and were slightly foetid. The patient was able to sit up at the end of eight days free from fever, although quite anemic. The fever rose no time above 103° Fahrenheit.

Case II.—A multipara, age 32 years, good health, mother of three children, about eight months pregnant, was taken with an attack of la grippe. The temperature on the first examination was 103.4, pulse 102 and weak. She complained of great weakness, being hardly able to breathe. The treatment was the same as previous case, except 1-60 of a grain of strychnia sulphate was given as a heart tonic. On the third day, labor pains came on which
were weak. After eight hours of labor, the hemorrhage growing more profuse, she was relieved by instrumental delivery, and the placenta and membranes expressed by Crede's method. The child lived, but gave indications of having taken la grippe in utero. Its temperature on the second day ran to 101.5. It sneezed, coughed, and had congestion of the ocular conjunctivæ with a watery discharge from the eyes.

Case III.—Primipara, pregnant four months, on February 13 was taken with la grippe, the temperature running to 104° F. On the second day she was taken with slight periodical pains in the lumbar region with a sero-sanguinolent discharge. General treatment for la grippe was pursued with the administering of half dram of the fluid extract of viburnum prunifolium and ten grains of potassium chlorate every four hours, for the threatened abortion. On the fourth day all symptoms of miscarriage disappeared.

Case IV.—Was a woman married four years, and since the birth of the first child three years ago she had had five and six miscarriages a year. In September the uterus was curetted for a chronic endometritis from which she was suffering; in October she became pregnant and was placed on viburnum compound as a uterine tonic. On the 3d of February she was attacked with la grippe, followed on the third day with threatened abortion. Viburnum and potassium chlorate were given with the disappearance of all symptoms on the fifth day.

To summarize: The cause of abortion from influenza is unquestionably the local congestion with a direct infection from the uterine mucosa. The local congestion being produced to a certain extent from the embarrassed condition of the general circulation which occurred in the above cases. This condition of embarrassed circula-
tion permits the local stagnation of blood in the uterine sinuses and plexuses, thus increasing the physiological contraction of the uterus to such an extent as to produce abortion.

_Treatment._—Regarding the treatment little can be said other than is given in text-books on the subject. (1) Prophylactic measures should be pursued as soon as the pregnant woman is attacked with la grippe. The best results, I believe, in cases of threatened abortion, can be obtained by the combined use of potassium chlorate, which, according to Simpson, increases the oxygen of the blood, and viburnum, which relieves the uterine congestion. Opiates to allay restlessness and mental excitement, and a good heart tonic when necessary. If abortion becomes inevitable, active treatment under the strictest antiseptic precautions is demanded, and should not be delayed. The uterine muscle becomes weakened during an attack of influenza, as is the case with other muscular structures of the body, and the _vis a tergo_ being insufficient to expel its contents active interference is necessary, thus lessening the danger of the patient’s life from exhaustion.
THE DIAGNOSIS OF PREGNANCY.

BY S. C. BEEDE, M.D., SURPRISE.

Pregnancy may be affirmed or denied within the first three months of its supposed existence with as much certainty as the average pathological condition. This proposition I am aware is not sustained by all observers. Dr. Wm. Hunter said, "I cannot determine at four months; I am afraid of myself at five months; but when six or seven months are over I urge an examination." Writers generally caution against giving a decisive opinion before the foetal heart sounds can be heard or succussion plainly perceived. The profession at large act upon the theory that it is impossible to diagnose pregnancy in the early months. We pander to the still popular idea among the laity that each one's particular doctor is next to infallible. It is gratifying to our personal vanity to have even very ordinary people think we never make a mistake. Therefore in fortifying our positions we provide secure avenues for retreat. It will do to abort typhoid fever when we are not sure we are dealing with a relatively simple intestinal disorder, but it is a stomach blow to our self-esteem when, after telling a woman she is not pregnant, in a few weeks or months she has a baby.

Still I believe you will all agree with me that the initial proposition is true—that we can be as certain about pregnancy when the term is one-third passed as we can be about phthisis, diphtheria, or measles at the same point of its existence. It does not savor of quackery to say that it is impossible to be absolutely certain that any of these conditions exist, but it is suspicious of laziness to say we cannot form a reasonably positive opinion about pregnancy in the early months.
The diagnosis of pregnancy is made upon the same principles that govern in other cases. We must divest our minds of prejudice. We must forget what others think about it. We must secure all the evidence bearing upon the case and assign to each fact its proper weight. Judgment must not hinge upon one sign only, unless that sign is the only one obtainable.

To better estimate the value of what the patient tells us, it is well to find out whether or not she is desirous of bearing a child and whether she thinks she is pregnant. Her condition in life and her surroundings will also aid in determining how nearly correct her statements are. There is nothing, her age excepted, about which a woman will prevaricate so much. Some attention may be given to a patient’s sensations if she has borne a child and is not influenced by desire, but the careful observer will give them but scant consideration. Menstrual suppression is the first symptom noted, and is one of the most valuable. In nearly every case a woman who has been regular is pregnant if she misses a period without marked constitutional disorder. I have never known a sexually healthy woman to fail to menstruate on account of cold or exposure without being seriously sick. The presumption should be in all cases that pregnancy exists if a woman, previously regular, stops menstruating. We get no information from this source if the patient’s statement is untrustworthy; if she has never menstruated; if an operation about the cervix, the use of caustics, or disease may have obstructed its canal; if some profoundly depressing disease, such as tuberculosis, is possibly the cause of suppression; if the function has not been re-established after parturition; or if she is at the time of life when the menopause is to be expected. In the great majority of cases, however, these can be discovered from
the history of the case. Sometimes the catamenia con-
tinue during a part or all of pregnancy. Rarely indeed,
however, is it true menstruation. A diseased condition
of the cervix or vagina or a vicious position of the pla-
centa is the causative factor in most cases, and the hem-
orrhage is irregular in quantity and time of appearance.
Care must be used in accepting a patient's statement in
this matter, for with most subjects a slight oozing from
a urethral caruncle is menstruation.

More than seventy-five per cent of all women have sick
stomachs within six weeks after conception. This sign
is of special value in case of irregular menstruation and
pelvic disease obscuring some of the physical signs. I
was once enabled to diagnose pregnancy by this indica-
tion with but little confirmatory evidence in a case of
hyperplastic metritis, which showed no marked change in
the uterine body or cervix near the end of the third
month. She aborted three weeks later, and not till then
would she believe she had been pregnant. In this case
there had been such scanty flowing that it could not be
said that she had menstruated for a year. This nausea
differs from that produced by other causes in usually be-
ing accompanied by a sensation of heat, a good appetite,
and by the regularity of its appearance. It may appear
at any time of the day or last all day. It is ordinarily
not troublesome while the patient is lying down. I have
not observed that it is entitled to the name of morning
sickness.

In primiparae there are some changes in the breasts
and nipples as early as the third month. The breasts
are firmer and less inclined to be pendulous. The skin
appears more tense, the nipples of a darker hue and some-
times moist from increased dermal secretion, while the
site of the lubricating glands is made more prominent by
slight elevations. In women who have borne children there are no changes in these structures as early as this that can be relied upon at all unless she still be nursing a child. In that case the diminished or suppressed lacteal secretion is valuable testimony. Indeed it is in these cases often the only rational sign. The presence or absence of colostrum in the breasts during the early months is worthless as a sign of pregnancy. Soon after the fertilization of the ovum the body of the uterus begins to enlarge and the whole uterine structure to soften. This is true even in ectopic gestation, and is the most reliable of all indications. For this reason I decline to express an opinion in any important case without first making a bimanual examination of the pelvic contents. This softening process progresses more rapidly in the body of the uterus than in the cervix, and to the examining finger gives a decidedly boggy sensation. The cervix is noticeably softer than before impregnation, and is set less firmly against the body. "If as hard as the tip of your nose not pregnant; if as soft as your pursed lips an embryo is within" is the old rule, and there are few exceptions to it. The impregnated uterus to the bimanual touch is an inverted cone with regular sides and uniform hardness. The impregnated uterus is a soft round bottle with a relatively hard neck set into the softest part of it. Hegar's sign elicited by inserting index finger of one hand into the rectum, the thumb of the same hand into the vagina, while the other hand upon the hypogastrium presses down upon the fundus. The cervix at its juncture with the body is grasped by the thumb and finger and pressure made. In pregnancy this part is found to be very soft and thin—almost as thin as paper some say. We must be sure that this is not a point of flexion in a deformed womb before assigning it a place in the list of.
evidences. This method is repugnant to the patient and disagreeable to the physician, but is an excellent means of exploring the contents of the lower part of the pelvis.

It seems incredible that a reasonably careful medical man in general practice, with opportunity to see his cases from time to time, should mistake a pregnant uterus for an ovarian cyst, and open the abdomen for its removal; yet this occurred recently in the practice of a neighboring village doctor. We cannot be too careful in ascertaining whether the enlargement we find is the uterus itself or a foreign growth. Fibroids can usually be distinguished by their hardness and irregular outline, by hemorrhage, and by the absence of other signs of pregnancy. A perplexing possibility is the coexistence of pregnancy and myoma. I shall always remember my amazement, in one instance, when a large submucous fibroid was expelled a few hours after the patient had been delivered of a three months' foetus.

The vaginal and vulvular membranes are darkened in pregnancy and secrete more freely. The color is a greyish purple. Not much reliance can be placed upon this, however, as pelvic congestion from any cause produces similar changes.

Other signs that from time to time have been asserted are hardly worth considering. Among them may be mentioned despondency, neuralgia, nervous disorders, salivation, "cotton spitting," irritable bladder, leucorrhoea, and early quickening. Of some value, perhaps, is the facial expression. A pregnant woman is usually well nourished in spite of her nausea.

The following cases will illustrate some of the points I have attempted to emphasize.

Case I.—C. H., aet. 19, single, by occupation a teacher, came to my office and asked advice about menstrual sup-
pression. She said she had not menstruated for nearly three months, and had always been regular. Said she felt well, only was not as strong as she had been formerly. She denied nausea, but admitted frequent attacks of vertigo. Her breasts were flabby and nipples pink. The uterus was somewhat large, but normal in shape, and of firm consistence. The vulvar orifice was so small as to admit my finger with difficulty, and the hymen was torn in making the effort. Her face was thin and pale. Tonic doses of quinine, iron, and ergot were prescribed, and in a week normal menstruation began.

Case II.—C. M., aet. 19, single, a domestic, said she had a return of her old trouble, referring to backache and menstrual suppression at the beginning of her sexual life some three years before. She denied nausea, or the possibility of pregnancy. Her complexion was dark, and I thought the nipples unchanged in color. The papillae were slightly elevated, the breasts inclined to stand out from the chest. The vulvar and vaginal walls were of a dark hue. The examining finger touched a soft cervix set loosely into a soft, round uterine body as large as an orange. I asked her whom she was going to marry, and she said Charley L. They were married the next week.

Case III.—Mrs. W., aet. 32, the mother of seven children, was flowing profusely. Said she had taken cold at one of her regular periods about fourteen weeks previously, and had been flowing some at irregular intervals since then, but not very much. Her appetite had been rather poor, but there had been no nausea. She was having spasms of bearing down pain with faintness, but they were not regular in their occurrence. The cervix was dilated sufficiently to admit the tip of my index finger. The body was enlarged, but as hard as the cervix, and elongated instead of round. It might have contained a
ten weeks' foetus, and I told her it did. The vagina was packed, and twelve hours later, upon removing the packing, there came also some clots of blood and three pieces of rather soft fibrous matter, the size of a hazlenut. The cervix was dilated sufficiently to admit the index finger, and, using the nail as a curette, I removed some fragments of the same material that was attached to the fundus, and swabbed the cavity with a mixture of iodine and carbolic acid. The mistake in diagnosis here should not have been made. There was no nausea; there was no menstrual suppression; the enlargement of the uterus differed in form from that usually occurring in pregnancy. The irregular flowing was in itself suggestive. Not every woman with an enlarged womb, passing clots of blood with pain, is trying to expel an immature foetus. The mistake probably would not have been made had I examined her before she got into the condition so closely resembling the ordeal of abortion.

Case IV.—Mrs. W., aet. 22, was the mother of one child which she was still nursing. I was called to attend her in a supposed miscarriage. She was flowing freely, the blood clotting in the vagina and being expelled in large masses. She had not menstruated since her child was born. Her milk was secreted in undiminished quantity. She had continuous pain in the pelvis and groins, and some fever with a quickened pulse. Her health had been good, and she had not been sick at her stomach since her child was born, while there was considerable nausea during her pregnancy. The uterus was enlarged to three or four times its normal size, was irregular in contour and was hard. Being quite certain she was not pregnant I introduced a sound, which passed up along the anterior part of the uterine mass. The cavity was elongated, but not perceptibly widened. I concluded the enlargement and
hemorrhage were due to an interstitial fibroid, and gave her ergot and hydrastis. The hemorrhage soon ceased to be troublesome, except at her monthly periods, and at the end of six months they had become normal and the uterus of natural size. She has since passed through an uneventful pregnancy and puerperium.

Case V.—Mrs. B., aet. 24, had one child two years old, had missed one monthly period, and was nauseated. She was taken with sudden intense pelvic pain, and her physician found her a few minutes later in collapse. Examination disclosed a soft tumor the size of a small hen’s egg, near the left horn of the uterus, which was enlarged and retroverted. The next day there was some hemorrhage from the uterus, and two days later a mass of tissue resembling decidua was expelled. By the courtesy of Dr. Jones, the attending physician, I was called to see her on the evening of this day. At this time the tumor had disappeared, but there was decided fullness and bogginess in Douglas’ cul de sac. I could but confirm the diagnosis of Dr. Jones—ruptured gestation cyst of an ectopic pregnancy.
INFECTION FOLLOWING CHILDBIRTH, WITH REPORT OF A CASE.

BY H. S BELL, M.D., KEARNEY, NEB.

This paper is not offered so much in the expectation of teaching anything new in aseptic midwifery as to attract the attention of those physicians who either are not convinced of the necessity of aseptic methods, or perchance may have conscientiously studied aseptic and antiseptic principles, but who have more or less backslidden.

While the great majority of the physicians of the civilized world believe in the germ theory of disease, there are many who yet ridicule this fact, and spare no opportunity to discredit its truth. Men both great and small have attempted to belittle the importance of this greatest achievement of the nineteenth century. It is chiefly through the influence of such distinguished opponents as Lawson Tait that the less enthusiastic disciples of Pasteur and Lister become careless in the practice of asepticism. It has been abundantly demonstrated that the germ theory is no longer a theory, but an exact science, and will not tolerate any compromise in the way of a lukewarm adherence. The laws of bacteriology are exceedingly plain, but success only follows when these simple rules are religiously observed.

The case upon which this paper is based well illustrates the trouble which is liable to follow any laxity of aseptic details in the management of labor. My practice for many years had been so entirely free from any serious infection following childbirth, that I had come to regard the rigid observance of aseptic details as wholly superfluous, and had contented myself with apparent
cleanliness, consisting always in carefully washing my hands with soap and hot water and cleansing my nails, and repeating this with every subsequent examination, and making as few of these as possible. However, the experience gained in the following case has taught me, at least, that pyogenic microbes are not always so simply relegated.

To make the case easy of comprehension, it is necessary to know something of my environment previous to its occurrence. Ten days prior to the delivery of the case I had operated upon an old case of infectious necrosis of the os calcis, removing the bone; and at the same time I had a case of facial erysipelas attended with many blebs which I opened, and otherwise handled the infected skin. In the meantime I attended a case of confinement, but only made the slightest examination; this case recovered without infection or any symptom of illness. April 13, 1897, ten days after dismissing my case of erysipelas and operating upon an extremity cris-crossed with sinuses and foci of suppuration and removing necrossed bone, I was called to attend Mrs. B. J. H., age 35, in her fourth confinement. About 8 A.M., without previous warning, a sudden discharge of about a pint of water occurred from the vagina. This was followed by slight pains at infrequent intervals until 2 p.m., when I was called. At 3 p.m. she took to the bed, and after carefully washing my hands through two bowls of hot water with soap, and cleaning my nails, I made an examination, finding the os almost completely dilated, and the membranes ruptured. The vertex presented in the first position. The pains increased in force, and at 5 p.m. I began the administration of chloroform during the moments of pain. At 7 p.m., after about four hours of moderately severe labor, the child was born. I placed my
left hand upon the abdomen over the fundus of the uterus and made circular friction movements. I thought the uterus contracted promptly, but did not remain very firm. I continued to watch with my hand upon it for twenty minutes, when at the height of a contraction I expressed the placenta a la Crede. I continued my hand on the abdomen with a squeezing and rubbing motion several minutes, trying to promote retraction, which was not fully obtained. In removing the placenta from the bed, I noticed the membranes were greatly distended with fluid. I also observed an extraordinary quantity of clotted blood massed against the vulva and buttocks. The patient's face was as white as marble, lips ashy gray, pupils widely dilated, and she complained of great thirst. My hands were bloody and filthy, but the emergency was so great I at once grasped the uterus through the abdominal wall and found it entirely relaxed, no response occurring. After a moment I introduced my right hand into the vagina and found it and the uterus filled with clotted blood; this was removed when I carried my fingers and palm into the cavity of the uterus, and by aid of bimanual pressure and very hot water through an unclean fountain syringe, I quickly arrested the hemorrhage and secured firm and permanent contraction. Her pulse at this time was very feeble, and running 160 per minute. She was made clean and dry, the abdominal binder and occlusion pad were applied. No symptoms of note, save the rapid pulse, occurred until the third night after delivery, when she had a hard chill, lasting two hours. The morning following this chill she had a temperature of 104, pulse, 175. Thinking possibly it might be a case of sapraemia, or putrid intoxication, I placed her crosswise on the bed upon a Kelley pad, introduced a bivalve speculum, seized the anterior lip with a double tenaculum
forceps, and with large phlegetts of dry borated cotton and a long curved uterine dressing forceps, I wiped out the uterus thoroughly, at first bringing away many small fragments of blood clot; then I saturated a piece of cotton the size of three fingers with iodized phenol (carbolic acid crystals, ounces one; iodine crystals, ounces one-half; glycerine, ounces one; mixed with heat and constant stirring) and carried it up to the fundus and allowed it to remain a few minutes. She was ordered Epsom salts every four hours until free catharcis followed. At 4 P.M. her temperature was 104, at which time I gave an intrauterine irrigation of hot solution of one to one thousand permanganate of potash and fifteen grains of quinine per orem. At 8 P.M. temperature and pulse unchanged. Repeated the irrigation of uterus and gave fifteen grains of quinine. The following morning the temperature was 104.5, pulse too rapid to count. I again wiped out uterus with dry borated cotton, and applied the caustic solution of carbolic acid and iodine and gave fifteen grains of quinine. Bowels had acted freely. Temperature was taken every two hours, and during the day ranged between 104 and 105. At this time I was fully convinced that it was a case of septicemia, and that local antiseptic treatment was of no avail; consequently no further intrauterine medication was attempted. Her treatment each day after this consisted in fifteen grains of quinine mornings, and twenty-five grains evenings, four ounces whisky, one hundred and twenty grains of protonuclein, one-fifth grain strychnia, morphia sufficient to control pain and respiration, and bowels moved daily with an enema of three pints of flaxseed meal tea containing one ounce of castor oil and a half ounce of turpentine. She complained of pain in the lower abdomen, bowels throughout were greatly distended with gas. The
enemas always moved bowels freely, bringing away large quantities of gas. Her diet consisted exclusively of peptonized milk, of which she took from four to six pints daily. The large evening doses of quinine would give her from four to six hours of comparatively light fever, but the temperature before morning would rise to 104 or 105. This exceedingly high temperature and rapid pulse continued with but a few hours' respite daily for ten days, at which time the temperature suddenly dropped a degree below normal and pulse fell correspondingly. Diaphoresis throughout was profuse, and especially after fever subsided. The kidneys acted freely during the pyrexia. The elimination by the renal glands was possibly promoted by the large quantities of milk and even larger quantities of water consumed.

This case, to my mind, was one of virulent streptococcus infection, resulting from pyogenic germs upon my hands which had come from either or both the necrosis and erysipelas cases treated ten days before. The exsanguinated condition of the patient made her an easy prey to infectious cocci. The excessive hemorrhage militated against her vital power to meet and subjugate the destructive septic germs. The protecting leucocytes lost in the post partum hemorrhage deprived her of the defensive action of this mighty army of devouring phagocytes. It was for the purpose of rapidly mobilizing an army of these that I gave fifteen grains of protonuclein every three hours, and as the invading hosts of streptococci riotously swept every rampart without pause until such time when the phagocytes could be reinforced and marshaled to defense, when, in the twinkling of an eye, the conflagration spread by the enemy ceased, and he became routed and retired in abject humiliation.

This experience has taught me the necessity of always
being on guard against the possibility of carrying infection to a parturient patient. Physicians are almost constantly in contact with some form of pyogenic cocci. The treatment of felon, carbuncles, and simpler phlegmons is more or less continuous, and it is taught that these germs are omnipresent, that their favorite abiding place is under and around the finger nails. Therefore the obstetrician's chief aim is the disinfection of the hands. This is the most difficult problem which aseptic surgery has had to solve. The sterilization of gauzes, pads, sutures, ligatures, and all dressings is perfectly accomplished by aid of dry or moist heat. But the only remaining weak point is that of the hands. Volumes have been written upon this subject. Confusion has too often resulted from the multiplicity of detail. If the disinfection of the hands can be reduced to a certain and simple process, there is no reason to doubt but that every practitioner will be glad to avail himself of this added security. The very best and most practical paper upon this subject appeared in the *New York Medical Record* of April 3, 1897, by Dr. Robert F. Weir, of the New York Hospital and professor of surgery in the College of Physicians and Surgeons. Dr. Weir carefully reviews in this paper all the processes of hand disinfection, and recommends as the simplest and safest, a preliminary scrubbing with a brush, soap, and hot water, adding the cleaning under and around the finger nails with a pointed brush like the end of a rattan or soft wood; about a tablespoonful of ordinary chloride of lime is then poured into the open hand, and upon this is placed a large crystal of carbonate of soda the size of the distal phalanx of the thumb. A little water is added and the chemicals are freely rubbed upon the hands and fingers. The process is exceedingly simple, and does not chafe the skin; and
bacteriologic cultures have proven it to be absolutely reliable. The obstetrician can easily carry in his bag a few ounces of soft soap, a small can of chloride of lime, and a wide mouthed bottle with a few crystals of carbonate of soda, and five minutes will render his hands entirely aseptic. The prevention of infection is of vastly greater importance than its treatment. It requires practically no labor. The treatment of a serious case of infection is one of the gravest responsibilities that ever befalls a physician. A little time and labor will prevent the possibility of the crushing anxiety which clouds the mental horizon of every doctor with a case of puerperal sepsis.
ACCIDENTAL HEMORRHAGE.

BY FREDERICK E. BEAL, PAPILLION.

It is not my purpose to apologize for reporting this case. Indeed, I think it is the duty of every physician to report in some manner his unusual and rare cases, not for any self-advertisement if such case end fortunately, nor to be ridiculed or criticised by the knowing ones if the opposite be true, but by courteous discussion to better prepare the profession at large to handle emergencies even though they may be rarely or never met.

Accidental hemorrhage or loosening of the placenta, according to Parvin in the American text-book of Obstetrics, is not a common event. He shows that only 105 cases are reported up to 1870. Brodhead, however, in a most excellent article in the Medical Record in February, 1897, claims it is by no means as rare as many suppose, and the "general practitioner is sure to meet with it." I am inclined to the opinion of the latter, and think many cases go unrecorded, and perhaps some sudden and unexplained deaths during labor could have been traced to this cause if it had been recognized.

The etiology of accidental hemorrhage is given as predisposing or exciting; among the former are many of the acute fevers and all chronic diseases tending to debilitate the mother or foetus, chronic nephritis being specially mentioned. The exciting causes include over vigorous uterine contractions, injury to the mother in any form, or shortness of the cord.

In diagnosis we are instructed to differentiate between this and placenta-prævia and rupture of the uterus.

The prognosis as to the mother depends mainly on the
area of the placenta that is detached and the consequent amount of hemorrhage and the rapidity with which it happens. In the severe forms, according to Storer in the above mentioned article by Brodhead, the mortality is $46.7\%$—practically one-half.

On March 2, 1897, I was called to the following case: Mrs. .........., primipara, aged twenty-seven, married one year and a half, family history absolutely good, present health perfect, weight at time of marriage 108 pounds, present weight 160 pounds, small frame, urine analysis negative, in the best of spirits, nine months pregnant. Examination at 9 a.m. child in normal position, movements vigorous, foetal heart between 130 and 135 made out with difficulty owing to the obesity of the patient, the os beginning to soften, pains rather infrequent, though normal for this stage of labor. Everything progressed nicely, though very slowly, and at 2 p.m., os was more than half dilated, vortex was beginning to settle into brim, and I could then make out that the head was very large, pains normal, though harder perhaps than usual at this stage. Shortly after 2 o'clock she suddenly complained of severe and cutting pains in the upper left segment of the uterus and screamed out that something was tearing there. Palpation within a few minutes disclosed a bulging of the womb at that part where pain was felt, and at the same time she said that she was flowing severely. Examination corroborated her statement, and I found a considerable amount of bright red blood flowing out of the vagina. Pain became rapidly more severe and the bulging more prominent. Uterine contractions became imperceptible or were marked by the constant tensity of the entire uterine walls and the terrific pain at the upper part of the womb. The patient became rapidly weak, pulse rapid and thread-like, pupils dilated, skin cold and
clammy, mucous surfaces very pale, and, feebly calling for more air, she rapidly went into a state of semi-unconsciousness, in short, a perfect picture of collapse.

I recognized that I had a serious condition before me, something more than a faint, and I suspected partial rupture of the uterus, but a rapid outlining of the child with the great distention of the womb excluded this catastrophe, and I knew that I had a detached placenta and that my patient was rapidly bleeding to death. Explaining the great danger to those present, the husband and three ladies, and telling them that while I would like assistance, time was too valuable to procure it, I immediately ruptured the membranes, thereby reducing the distention somewhat, but if anything increasing the visible flow of blood.

After a hypodermic of strychnine 1–20 gr., and a half an ounce of ergot, by the mouth, I finished dilating the os with my hand as rapidly as possible, and put on my forceps, in the application of which I found a loop of the cord down beside the head. Here I again encountered trouble, for I could not budge the head one inch, it being so large. My patient was rapidly becoming worse, and I saw that unless I extracted the child very quickly she would bleed to death. I thrust the head up and brought down a foot and quickly delivered as far as the head. By external manipulation and pressure I tried to contract the uterus, but only feebly succeeded. I attempted to deliver the head, and failed. I then applied forceps and again failed. I then performed craniotomy on the after coming head, thoroughly breaking up the brain; again put on my forceps, and this time succeeded. The placenta came out immediately after the head, together with an immense amount of blood clots.

I was especially handicapped during my attempt at
delivering the head, for with one exception all my audi­ence deserted me, believing the patient dying, and the scene can better be imagined than described, as all were relatives.

I then gave her a hot uterine douche, and the uterus contracted nicely from the heat. I immediately arranged her in bed, applied heat over the body, used strychnine subcutaneously and warm saline injections into the bowels.

The laceration resulting from such vigorous handling was complete. This I attempted to repair, about four hours after the birth of the child, as at that time her condition had slightly improved, and I felt warranted in making the attempt; but the second stitch I took, she again began to fail and I had to desist, and put off the repair of the laceration to some future period.

I continued high rectal injections of the salt solution, and strychnine with the needle every four hours.

It was twenty-four hours before my patient rallied with any degree of certainty. After that she gained strength and blood rapidly without any untoward symptoms.

My treatment consisted of intrauterine injection morning and night of a weak permanganate of potassium solution, a vulvar pad made by wringing a sterilized napkin out of a five per cent creoline solution, and seeing that everything about her was as absolutely clean as heat in some form could make it, internally the most nourishing food possible with strychnine and iron. She never had more than $1\frac{1}{2}$ degrees of fever, and that the fourth day just before I moved her bowels.

Two very peculiar phases of her case I wish to bring out and which I did not understand. There never was (after the first few hours oozing from the tear) the slightest amount of lochia, not even enough to make the least
stain on her napkin. Again there was absolutely no se­
cretion of milk nor any swelling, tenderness, nor any
change whatever in her breasts, though these glands were
well developed.

Though I have sought diligently, I can find no satis­
factory reason for this accidental hemorrhage to have hap­
pened; she had every attention that money and kindness
could bestow, and the health and history of herself and
her husband are as near perfect as it would be possible to
find.

My only theory is that it was the result in some man­
ner of the rapid taking on of fat after marriage and dur­
ing pregnancy. I am strengthened in this belief by the
abnormal condition of the child, which weighed close to
13\frac{1}{2} or 14 pounds. The exact weight by ounces I unfor­
tunately cannot give, as it was disposed of during my
constant attention to the mother, and though I ordered it
weighed it was done carelessly by a neighbor who said it
weighed about 13\frac{1}{2} or 14 pounds.

The placenta showed no signs of fatty or other degen­
eration to the eye, but from the clot adhering to it it
showed that the detachment was complete.

Eight weeks from the day of the birth, my patient was
operated on and the laceration repaired with perfect result.
She is now in the best of health, and says she feels as
strong as she ever did in her life. I would consider it a
flattering compliment, indeed, if my paper should provoke
some discussion, and I invite it most earnestly, for I wish
further light on the subject.
MY UNFAVORABLE LABOR CASES IN EIGHTEEN YEARS' PRACTICE.

BY F. A. BUTLER, A.M., M.D., HARV' RD.

I began the practice of medicine eighteen years ago at a village in northern Illinois, and in relating my experience, giving briefly my unfavorable labor cases, it may be well to mention that I have always practiced in the country, and it must not be forgotten that there were seldom any trained nurses to assist one, the only assistance being what was given by friends and neighbors, the directions being followed if it suited only while the physician was at the patient's bedside. Thus it will be seen the obstetrician was not infrequently nurse as well as his own council.

I began the general practice of medicine April 1, 1879. The first obstetric case to which I was called was the latter part of the same month, a few miles in the country. After fording Fox River, which at that time was deep enough for the water to run over the buggy seat, the humble domicile was reached. An old crone, a self-styled, so-called mid-wife, had been with the patient part of the day previous, and all the past night. A small, delicate woman, with a contracted pelvis, was in labor. On examination an opinion was given that the child could never be born alive, as labor had then been going on at least eighteen hours with scarcely any appreciable advancement. Counsel was requested. An old practitioner was called from a neighboring town, who believed in assisting nature by giving it everything to do. Thus matters went on until that night, when the mother, with the unborn child, passed to the great unknown.
There was nothing under the canopy of heaven that would have saved the life of this woman excepting craniotomy. I do not think she could have withstood a Caesarean section.

During the spring of 1883, I was called several miles in the country one dark dismal night to attend a case of confinement of a woman who was already the mother of three children, with a history that labors had always been protracted and serious. A labor two years previous to the one to which I was called resulted in a craniotomy being performed by those in attendance, with a subsequent history of a slow, tedious recovery. Arriving at the place I found patient in labor, also in a puerperal mania, very little progress having been made, pains slow, tedious, and far between. As the roads were very bad, and the man a poor man, I remained with this case until morning, went to town for instruments and assistance, bringing back with me another physician. We arrived at the place toward noon, to find that she had died with her unborn child. Pardon me for being honest enough to say that I did not know then, nor do I pretend to say now, what the poor woman died of. However, it occurs to my mind, after the lapse of years, that the assigned cause on the funeral director’s ledger was heart failure caused by child birth that didn’t happen. These two cases were the only unfavorable labor cases I had during the first six years of practice. I then moved from Illinois to Harvard, Neb., and am quite frank to state that I have never for a moment regretted the change. After being in Harvard about a year was called to Stockham, Hamilton county, sixteen miles, to attend a case of confinement, woman thirty-five years old, first confinement. Arriving at the residence, labor had then continued since the day previous. As there was no physician in the village I administered chloroform
with no assistance save one or two of the neighbor women. Applied forceps; delivered patient of twins, one dead and the other alive. Patient made a fair recovery, everything being taken into consideration. She was troubled for a few weeks with phlegmasia dolens which was controlled in due time by appropriate means and remedial agents.

In October, 1888, I was called to attend a quasi Russo German woman, said to be in confinement not only that night but the day previous, and that something was coming away. I arrived at the place and found the woman in labor, attended by two or three old crones who had been manipulating the case. I also found the cord prolapsed and broken off at placental attachment. Without any examination, at a glance I took in the full situation and merits of the case. As the woman was not in much distress, I gave her a hypodermic of morphia, wrote a note to a neighboring doctor to come to the place, bring instruments and chloroform. I had very hard work to get the husband, who belonged, in make up at least, to the Russian dog-man family, to go for the physician, but he finally did so. The doctor came about daylight. In the meantime the woman had slept a few hours. Exhausted nature had a chance to recuperate its powers, delivery proceeded without the use of instruments, child being of course dead. As a sequel of this case the doctor whom I was kind enough to send for, told the lord of the manor it was he who did the work, charged $25 and collected the same. In the meantime this version of the affair was noised about the community. Six months went by, and the husband said he never intended to pay me. I sued him. Case came up in Harvard for hearing. Five doctors appeared against me, two regulars, two eclectics, and one who was smart enough to get a license, not so much on merit as on ac-
count of his time. I simply made a statement of the case and retired. The doctor whom I called in consultation to see the woman came to me and advised me to withdraw the case; that it was sure to go against me. I told him my fighting armor was on, and that there was a Judas connected with the case, and it was he whom I was bound to locate. After all the evidence was in, case went to the jury (justice court jury of six) who soon brought in a verdict in my favor, and I was subsequently paid.

The question might be asked, Where are the five doctors who appeared in this case as a combine to ruin a man who had recently located in the community? We leave the question unanswered: but would say to the younger members of the profession, No matter where you are, keep this point as a worthy talisman in view, that if a physician locating in a community has any real merit or worth of character, or scientific ability, that community will find it out sooner or later, and vice versa. Again, favoritism, prejudice, and partiality can never down skill and ability. The tongue of the slanderer is ever abroad in the land. But this is diverging from the theme of this paper, Unfavorable Labor Cases, and for fear of wearying your patience I must get onto the main line. On April 1, 1891, I was called to attend a case of labor in town, the lady being well known and a patient of mine, suffering with pulmonary tuberculosis, was the mother of one child and had one miscarriage about eighteen months previously. Arriving at the house, carefully considering everything in detail, the patient's enfeebled condition generally, told the folks and friends, in my opinion she would live through the confinement, but would never survive it. The labor was a natural one, giving birth to a bright little girl who is now living; but the mother sank rapidly, dying of exhaustion within two hours after labor was completed.
On January 11, 1893, was called in a blizzard to go nine miles northwest to attend a case of labor that the husband said had been going on since forenoon of the day previous. On reaching the premises found Mrs. S. in confinement, large, heavy built Russian woman forty-nine years old, the oldest woman I ever attended in confinement, this being her thirteenth labor, all of which had been long and tedious, several forceps deliveries. Two years previous a craniotomy had been performed by four physicians who were called to attend the case. Getting everything in readiness, patient was chloroformed, forceps were given a thorough trial, two or three different kinds being used, all failing to effect delivery on account of slipping. No hold could be retained, woman having a large and pendulous abdomen. With this condition and an occipito posterior position of the head, which failed to rotate, indicated to my mind craniotomy as a last resort to save the mother whom numerous children stood in need of. Counsel was sent for. After a consideration of the case in all its bearings and details it was concluded to give another thorough trial, and while the patient was under the influence of anesthetics, if forceps failed in delivery to proceed with craniotomy, which was done, and succeeded in getting the child away, and secundines, after about two hours' very hard, laborious, disgusting, sickening work. The child was a large male child, weight about twelve pounds. With no subsequent attention and very little care the woman made an uninterrupted and complete recovery, after going through a labor lasting forty-eight hours. On June 11, 1893, in the afternoon was sent for by another practitioner to come in consultation to visit a patient in confinement in Harvard, and to bring my instrument case along; repaired to the place, found a German woman about forty-five years old in
labor which had continued since day previous, about twenty-four hours. She was in a small room on the west side of the house; room was full of boxes, carpet, parcels, etc., so that it was almost next to impossible to get at the patient. Being a hot, sultry afternoon, the one small window was hoisted to its fullest extent. This being the eleventh confinement, all preceding ones said to have been slow and complicated, all symptoms pointing to the death of the child, it was decided to chloroform the patient, try forceps, and, if this failed, which was the case, to perform craniotomy. This the husband peremptorily refused to permit. After it was explained to him the woman was not in a condition to give consent. I explained to him that we could not permit the word to go out in the community that two physicians let his wife die without doing anything for her. He said she was going to die anyhow and we should not cut her to pieces. The attending physician said he would give the chloroform and for me to prepare to perform craniotomy. While using the perforator the husband came in the room and jerked my arm away. I told him in plain terms that if he in any way hindered us again he would be pitched headlong out through the window. After engaging the blunt hook and cranioclasp, I changed with the attendant, to see that we were not interfered with. In about an hour's time the woman was delivered of a very large child that had every appearance of having been dead several hours, although this operation was done under the most unfavorable circumstances, and unsanitary conditions, in a dirty, greasy, sour, buggy bed, the small room being piled full of trumpery. Instruments were, of course, aseptic, and an antiseptic regimen instituted and carried out as near as could be, everything being removed from the room, as soon as the confinement was over, and before
I left the house floor scrubbed, everything remaining in the room sprayed with an antiseptic spray. The patient made an uninterrupted recovery, and was up and around in about two weeks.

August 15th, 1893, I was called to an adjoining county in consultation with the oldest practitioner (Dr. Perkins, now of Hastings) of the county to see a comparatively young woman in puerperal convulsions, about the seventh month of gestation. She had one child, a little girl eight years old, first pregnancy; had six miscarriages in the interim. Albuminuria and general anasarca supervened to an alarming extent. She was having one convulsion after another; sixteen ounces of blood were extracted. The induction of premature labor was advised. I was too busy to remain with the case, but promised to return in the evening. On my return, premature labor had been accomplished, after which there were only one or two convulsions, patient lapsing into a coma. The means and remedies used seemed to afford no amelioration in the symptoms. The old doctor being tired out, I told him he could go home if he desired, and I would remain with the case all night. This proposition was thankfully accepted. All through the long, lonesome, dismal night I watched by the bedside of the dying woman who had undertaken to carry out one of the most noble attributes given by our Creator and allotted to the destiny of man. The patient, the mother, comatose, with that look upon her countenance described by the ancient father of medicine, Hippocrates, 420 years before Christ, and known by the profession since his day as the Hippocratic look. Thus matters went on until the approach of early morning. As the first red glare of the sun was streaking the eastern horizon, and when all nature is the most inviting, her soul was wafted away to the God who gave it, and the inani-
mate body was soon to return to that dust from whence it came.

In this paper I have said nothing about still-births, miscarriages, and abortions, which combination would number probably a hundred in the aggregate. Among this latter class, but one woman having died, upon whom I was called, which case I report for publication as an addendum to the foregoing paper. In presenting these cases it is hoped the society will judge of one's success, by reading between the lines, of the large number of successful cases it leaves out by the unfavorable labor cases reported whether in town or country, passing along the street or road when the school children are *en route* to school. Your humble servant meets with many bright-eyed boys and girls whom it has been his province to assist in their advent, during the process of evolution into their present stage of existence, and there is at least a small army of mothers that remember the long hours of the night spent at their bedside in rendering such assistance.

I report this case as an addendum to the foregoing paper. The experience here related may be a help to a toiling brother practitioner, and shows what any of us are liable to get into unwittingly. For the sake of brevity names will not be mentioned. On Saturday morning, July 25, 1891, at four o'clock in the morning, a young woman was unloaded at our town, said to be from a distant city. At about ten A.M. the landlord of the hotel where the party had stopped (in company with another woman purporting to be the young woman's mother), came to my residence, desiring me to come down there, and said there was a very sick girl. I told him I would be down in about an hour's time. In about half an hour another messenger came with same request, and on repairing to the hotel I found as stated. Inquiring
regarding the case was informed that patient had been pregnant as she supposed, had taken a course of electricity, and had also had a number of other treatments and operations. Considerable had come away from her—did not know whether everything was away or not—considerable discharge. I told them it was not the place for a case of the kind, that I would give some powders to quiet the pain, and for them to take first train back, which was due in about two hours. About the middle of the afternoon the landlord came to my office and stated that one of the ladies had gone on the train, but the sick one was still there, was resting some, did not eat any dinner, and his wife was very much alarmed regarding the case. I went down there again and set about, if possible, to save the young girl's life, sent for two other physicians in consultation. One of them came the next day who said there was no occasion for alarm. I told him, viewing the case from every standpoint, I was fearful of the result; that the occasional pain exhibited seemed far beyond the symptoms indicating it. The next day patient seemed gradually growing worse, and died on Tuesday afternoon of septic peritonitis. An undertaker came from the home of the girl and conveyed the remains back twelve hours after death. Otherwise than a very foul discharge from the vagina, almost black last two days, there was no indication that an abortion had taken place. In all probability, however, such was the case. An examination revealed nothing in the uterine cavity otherwise than a thickened, inflammatory condition of its walls. A rabble which almost assumed the form of a mob was instigated. Coroner was notified, who followed up the remains and brought the same back to Harvard. An inquest was held that lasted several days; a couple of physicians were summoned who performed an autopsy, after which the corpse was conveyed back to the former home for burial.
To satisfy the rabble, to appease the indignity of the populace, and to shield somebody else, something it seems had to be done by the so-called coroner's jury. I was bound over to a preliminary hearing for murder in the second degree, penalty one to ten years in the penitentiary, if convicted. At preliminary court, on account of the continued illness of the county judge, I waived examination, as the hearing was before a county justice, who had never heard any kind of a case in this capacity. Was bound over to district court for murder in the second degree—bail fixed at two thousand dollars. A gentleman worth at least half a million dollars offered, without being asked, to sign the bond. The justice hesitated some time before accepting it, finally did so when we drew a personal check on Clay Center bank, for the full amount of the bond—two thousand dollars. The case came up at November term of district court, Clay Center, before the eminent jurist Judge Hastings; case continued to the March term, when it was tried, 1892. After the prosecution had concluded, having examined a large number of witnesses and having failed completely, so far as evidence was concerned, to connect me with the case, otherwise than I had been called to attend the girl who happened to die on my hands, after a hasty consultation with attorneys, we concluded not to make much of a defense. I was not on the witness stand in this case, also a number of witnesses in my behalf were not called, and only one of the physicians who assisted at the autopsy was called to testify. After a review of the case pro and con by the attorneys, the same was given to the jury; after being out two nights and one day failed to agree, eight for acquittal—finally nine—and three for conviction. The jury was discharged, case went over to next term of court. I demanded a trial. Prosecution not being ready, a few days
was given for this purpose, when a plea was made to continue the case to the next term of court, which motion was overruled by the judge and case dismissed.

The history of this case shows that any of us who have the misfortune to be called in to attend a real, or supposed case of miscarriage, or abortion, are liable to prosecution if anyone is desirous of working up a suit; it can very readily be done. A suit for malpractice, or neglect, or criminal abortion is one thing; making a case is an entirely different thing. Such cases it seems, at least from my experience and the extended experience of others who have been unfortunate in this line, are worked up solely as a scheme for the money there is in it; with an intent to ruin one's professional standing in a community, usually as a state case if it can be done, and often where the services rendered by the physician or surgeon, as in this case, are gratuitous. It seems as a mark of appreciation and respect of one class of the laity to give us this kind of a deal by way of recompense, and where such cases are tried before a mixed, uneducated jury, it is but to provoke a miscarriage of justice. What safeguard to follow by the profession, to guard against this imposition, would be a theme for another paper in and of itself. In civil suits the judgment is for the amount of damages found by the jury. In criminal cases the sentence in cases of malpractice is generally a fine regulated by statute; sometimes, in cases of a malignant nature, a term of imprisonment is inflicted. If manslaughter is charged and found by the verdict, the penalty follows the common law, or the state law on the subject. If the latter should be the case, what would wealth, professional attainments, learning, business success, be worth with this stigma as the climax.
THE DOCTOR AS AN EDUCATOR.

BY J. LUE SUTHERLAND, M.D., GRAND ISLAND, CHAIRMÁN MEDICAL SECTION.

Ladies and Gentlemen of the Medical Section of the Nebraska State Medical Society:

It is with pleasure and due appreciation of the honor conferred upon me, even though somewhat accidental, in being permitted to preside over the medical division, in this our first meeting of sectional work. Leaving for future results to verify the wisdom or otherwise of our new departure, it is certainly gratifying to realize that our society has attained such proportions as to necessitate its division into sections. Whatever of the unpleasant and inconvenient this arrangement may possess or create, of at least one advantage we are assured, and that is we can be more thorough in the discussion of papers—a quality sadly lacking heretofore, especially on the last day, for want of time.

In presenting for your consideration and criticism a few rambling thoughts on the subject of “The Doctor as an Educator,” I wish to say in the beginning that I am from choice a member of the medical section. This is the important section, and naturally is composed of the better educated members of the society. For while each and every member of the society is a surgeon, we, the voluntary members of the medical section, are something more—“we are doctors also.” We belong to that class of medical men who believe, unpopular though it appears to be, that there are yet battles to be fought and won without the aid of the knife alone; that there is yet one way, at least, to lives of usefulness without literally carving our
way "to fortune and to fame"; that we do not lose all interest in a patient as soon as we become convinced that he is in greater need of medicine than mutilation. Our importance to the people must ever be in proportion to our ability to meet the demands they make upon us. To us the great and important questions of state medicine and sanitary science are especially referred. The success with which these two vital problems are to be solved, the deductions therefrom carried into effect, and the magnitude which they are to assume as health-saving and life-prolonging measures depend almost entirely upon us. To us the people look for protection from the ravages of plagues and pestilence. It is to us they look for pure food and pure water, healthy meat and wholesome milk. It is to us that future generations look, not only for sure and safe guidance into the world and life, but if we will listen we can hear the cries of millions yet unborn appealing to us for the single chance for their lives; to rescue their mothers from the mutilating hands of the over-ambitious members of the surgical section. It is to us the entire world is looking for its future population. Because all others have refused to assume the responsibility, it is left for us to teach the young girl, who is a fine literary scholar, an accomplished musician, a competent teacher, an expert accountant, an efficient saleslady, etc., that there are yet three accomplishments which she must acquire before she has fulfilled the mission for which she was created, namely an honest wife, a competent mistress of a home, and an intelligent mother. It devolves upon us to enlighten society as to the fact that the giving birth to children by the ladies of refinement and culture is not a disgrace, and that the intelligent rearing and training of the children of the household is almost as important as the giving of afternoon teas and midnight whist
parties, much of the lay press to the contrary notwithstanding.

While the members of the other section are busying themselves with steel sounds and urethretomes we can to much better purpose impress upon the minds of the youth of our land that gonorrhoea is much worse than the worst "bad cold" it is possible to imagine. It is for us to teach them that there is but one cure for this disease, and that is never to acquire it. We often see the card in the daily paper, "private diseases a specialty. Satisfaction guaranteed." This always seemed to me a special inducement for people to contract venereal diseases, a standing invitation, as it were, to unchastity. Could the baneful effects of this loathsome disease be confined to the guilty it would be a matter of less importance, but when we so often see among its victims the virtuous wife and innocent offspring, we can scarcely overdo the matter by continually sounding the notes of warning until the laity have correct views as to the dangers, both immediate and remote, which threaten them from this source. While the other section is dilating strictures and incising the membranous urethra, we can occupy our spare time in teaching the young men who are determined to sow their "wild oats" a quicker and more honorable way to suicide.

Neither time nor space will admit of enumeration in detail all of the many problems that are now more than ever confronting medical men, but the brief mention of a few may not come amiss here. Alcoholism, with its attendant and widespread evils, the laxity of our marriage laws, the pernicious methods adopted in our public schools, the prevalence of criminal abortion, and other crimes arising from the same cause, the overweening desire on the part of the people for quackery in everything
pertaining to the treatment of disease, the sublime faith with which they swallow Hood's Sarsaparilla, Paine's Celery Compound, and Kickapoo Indian Sagwa, and flock to the catarrh specialist, "or five dollars per month by mail," "treated in their homes," etc., are some of the questions which should concern us.

I need not remind you that this attitude which the general public has maintained toward the medical profession since the time that a certain dirty-faced man was commanded to go and wash his eyes, down to the days of Schlatter by the roadside in the progressive little city at the foot of the Rockies, is simply the result of acquired ignorance, for much of which the medical profession is responsible. By the term "ignorance," I do not mean the absence of knowledge so much as the acquisition of knowledge that is erroneous. Hence, if we would have the people properly educated in all matters pertaining not only to our profession, but to the mutual welfare of all, this education must come from medical men. But sad and humiliating as is the admission, much of the education emanating from medical men, some of whom are within our own immediate ranks, is anything but proper; but of them and their methods I shall have something to say later on.

Important as these questions are, vital to our mutual interests as they are, and in keeping with the present tendency of the profession toward preventive medicine, is it not strange indeed that toward them the profession as a whole has hitherto maintained a stolid indifference? If the inebriate, before he has learned the taste of alcoholics, could be accurately taught their baneful effects, not only upon himself, but upon his posterity, "even to the third and fourth generation," he would be slow and cautious in becoming acquainted with the intoxicating cup. If we
took pains upon every occasion to instruct the laity as to the direful results of permitting the epileptic, the tuberculous, the syphilitic, the paranoiac, the inebriate, and the criminal, to marry and beget their kind, the people would rise up and demand of our legislators laws prohibiting such marriages. If the superintendents and principals of our common schools were educated as they should be, they would cease to measure the capacities of the various pupils by a single standard, and as a result the number of physical—and we may as well add mental—wrecks who graduate from our high school would grow beautifully less with each succeeding year. As our schools are now conducted, mental attainments only are considered. There is but one standard by which all are gaged, and woe to the boy or girl who fails to “pass.” Further comment is unnecessary.

If we took a little time now and then to instruct both men and women as to all that is meant by, and included in, criminal abortion, and picture to them in all its desolation the loneliness of a childless old age, I believe it would be time well spent. At any rate each one of us should so inform our patrons upon this subject that none of us will ever feel called upon to apologize for refusing to commit an abortion; and yet we are only too well aware that such will never be until the people are so educated as to never wish to have such an operation performed. What are we doing as individuals toward carrying forward this education?

But as to quackery, the Lord help us! How can we hope to educate the people against that which so many of our number practice daily. We meet year after year, and some of us many times a year in our societies. At these meetings numerous scholarly and instructive papers upon all kinds of medical subjects are read and discussed.
We spend considerable sums of money annually in supplying ourselves with the latest books and periodicals. We shut up our offices for a month or two each year to go to some medical center in order to study and "brush up"—and what is our reward? Simply the consciousness of having done our duty. Nine-tenths of the people continue as before to patronize the mushroom doctor, the latest arrival in the place, or one who takes especial pains to inform his patrons, and everyone else who will listen, that he is too busy to attend medical societies or read medical journals. And a large majority of those who sit in judgment upon our qualifications and thus regulate the amount of patronage we are to receive, implicitly believe that, while surgery may require some knowledge and training, all that which pertains to the treatment of disease or the giving of medicine is a natural gift; and that it exists in as high a degree of perfection in the untutored and unwashed savage as it does in the most profound medical scholar. While equally as great a number believe that a medical society is only another name for a medical trust, whose sole object is to protect the individual interests of its members and raise the fees; witness Senate Chamber of our state legislature, March the first of the present year.

Does anyone ask how physicians foster and encourage such beliefs among the laity? We have a code of ethics which explicitly says: "It is derogatory to the dignity of the profession to resort to public advertisements or private cards or hand bills inviting the attention of individuals affected with particular diseases, etc." And yet such things are done, and if they were limited to private cards the offense would not be so great. But what of the reading notices in the daily paper, with a long and carefully worded write up describing in minute detail some ordinary surg-
ical operation, but in such a manner as to make it appear nothing short of a masterpiece; lauding the operator to the skies and enlarging upon the great benefits thus secured to the patient; and yet in some instances before the paper in which the write-up appeared had reached its usual number of readers, the patient had passed over to the great majority where the “Bracelin cure” for consumption is not needed, and the six weeks’ specialist is out of a job. Of course there is a difference between such a method of keeping one’s name and business before the people, and that of the blatant institute advertiser, but the difference is in favor of the latter, and how are the people to distinguish between the two? While whole lifetimes of conscientious, ethical men cannot raise the entire profession to a high and pure atmosphere of intellectual and ethical security, the irregular conduct of one or two professed regular physicians is amply sufficient to bring into disrepute the entire profession in the community where their acts are known. Who has not heard more than once, “O, they are all alike, only some succeed in concealing their true characters better than others.” And thus, as it too often is in other matters, the innocent suffer more than the guilty.

The present tendency of the short term, recent graduate to rush into surgery upon the slightest pretext and every occasion has not only a depressing effect upon general practice in the estimation of the laity, but makes the way difficult for the legitimate surgeon, who, through years of patient study and original research, is not only a skillful operator, but a good diagnostician also, and upon this account is in every way worthy of his title. In short, the surgical temperature is at present above the healthy normal, not only in our own state, but throughout the entire West. In proof of this, a poll of the at-
tendance in each of the sections will show the surgical to outnumber the medical by a good majority every day of the session. A pair of healthy ovaries or even a healthy appendix on a plate and passed around while listening to a minute account as to how the operation was completed from start to finish in “seven minutes and nineteen seconds,” and the patient lived, possesses a fascination for the average practitioner in comparison to which the most masterly papers on, How to Reduce Infant Mortality, The Early Diagnosis and Treatment of Typhoid Fever, What of the Future as to the Water Supply, and The Disposal of Sewage in Large Cities, etc., pales into utter insignificance. Is it not worth while that the laity be taught that accuracy in diagnosis, skillful and scientific management and rational treatment of disease with all the organs intact requires almost as good a brain and as much training as it does to make a conditional diagnosis, advise, and make an exploratory operation. If we would do our whole duty toward the public and thus command the respect and appreciation which is due to us; if we would realize to the fullest extent all that is possible within the scope of the noblest profession, occupation, or calling upon the face of the earth, if we would place it within our power to do the greatest good to the greatest number, we must so educate the people by word and deed that they will be won over to believe that which we ourselves believe; but this we will never accomplish if we profess one thing and practice another. Is not, then, the proper education of the people along these lines well worthy of a part of our time, and has it hitherto received the attention its importance demands?
SOME IRREGULAR FORMS OF PNEUMONIA.

BY B. F. CRUMMER, M.D., OMAHA.

Every young practitioner of medicine who is active in professional work has an experience which leads him to believe that an unusual number of exceptional or atypical cases of disease present themselves to his observation, and it is only after repeated experiences of this kind, and perhaps several years of active work, that he begins to cultivate a spirit of reserve in the early diagnosis of disease at the bedside, and to exhibit an increasing confidence in that old pessimistic maxim that "it is often (in medicine at least) the unexpected that happens."

After all, if every disease that comes before us for diagnosis presented a set of constant and unvarying symptoms, the practice would lose a certain interest which it now possesses because of its freedom from machine-like precision and mathematical exactness.

While many of our acute affections and some chronic ones present these exceptional forms or types which violate all rules about symptoms and physical signs, it is, perhaps, in pneumonia that some of the most striking examples occur, and to these my paper will briefly refer.

Nothing in the range of acute disease presents a more striking picture to the observer than the average typical case of lobar pneumonia. The flushed cheek, the bright eye, the dilated nostril, and the rapid, catchy respiration, following closely upon a severe chill, often enables the lay friends of the patient to make an accurate diagnosis before the physician arrives. But when we remember that the same pathological condition may exist in certain instances without any or most of the ordinary symptoms
and physical signs, we are at once warned to be constantly on our guard, especially when dealing with patients of advanced life or those of impaired vitality.

These cases of atypical pneumonia are indeed best exemplified by the senile form, in which symptoms and physical signs are either delayed or entirely absent, but they are not confined to the aged. I have seen a number of cases in earlier life where the symptoms and physical signs were slight, perhaps contradictory, delayed in development, or to some extent absent, this irregular course being due to some constitutional defect or dyscrasia. It is well known that an insidious form of pneumonia comes on in certain cases of chronic nephritis, and the same is true of other conditions which produce profound constitutional changes, no matter what the age of the individual. Conversely, people of advanced age may present all the symptoms and physical signs of a frank lobar pneumonia. My experience is that a majority of elderly people have their pneumonias about the same as younger people do, so that the term senile pneumonia after all applies only to the exceptional cases. But when they do occur they are prone to deceive even the careful practitioner. Professor Tyson says that it is never safe to decide against a lobar pneumonia in an old person at the first visit, because the symptoms are obscure and the physical signs absent. Further, that “pain is especially absent in old persons,” also “cough and expectoration,” while the “pulse is rapid and feeble instead of full and strong.”

There are certain facts pertaining to the history of this disease which should be carefully kept in mind, and perhaps the most important is that some of the most common symptoms of pneumonia are due not really to the disease per se, but rather to its concomitants. Thus, the cough is apt to be proportionate to the amount of bron-
chial involvement, and the presence or absence of sharp pain depends upon the presence or absence of pleurisy, in a given case. Now, the absence of bronchitis in senile and other forms of atypical croupous pneumonia is the rule; hence the practical absence of cough and expectoration.

In my experience, pleurisy, another quite common accompaniment of typical lobar pneumonia, is either absent in the senile form, or comes on late, as in one of the cases here given, on the fifth day. These peculiarities are probably due to the central location of the consolidated area. Then the fact that the affected portion may be small in extent and overlaid with healthy lung accounts for the lack of physical signs. The fremitus may not be increased, and percussion and auscultation may not be modified until several days have elapsed.

Some early experience warned me that a certain set of symptoms pertaining to the nervous system are very suggestive of insidious pneumonia, and of value in diagnosis in the absence of physical proof. Especially are certain forms of delirium and symptoms of profound asthenia valuable indications.

An elderly person rises at night, becomes confused, and wanders about the house, or out into the open air. There has been no cough, no chill, nor fever, nothing to attract attention to the fact that the patient is ill before this time. Perhaps the mental confusion can be overcome by an effort. Sometimes the symptoms assume a form of hebetude or partial coma, and suggest a condition like uraemic poisoning. Again, as in one case cited below, symptoms of profound brain disturbance, with hemiplegia, or, at least, hemiparesis and constant restlessness and jactitation exist and totally obscure the lung lesion. Now, if by an examination of the urine we can eliminate ure-
nia and can find no real evidence of an organic affection of the brain, we may at times diagnose pneumonia with safety in the absence of physical signs in the chest, especially if the thermometer in the rectum shows a moderate increase of temperature. The surface of the body in these cases is usually cool, and this adds to the obscurity of the illness.

In the cases given below, I will omit tedious detail and only refer to the features that have a bearing upon the subject under consideration. I once called upon a medical friend in a neighboring city and found him reclining in bed. He was about fifty-two years old and led a very active life. He had been in the house for four or five days; no chill, his highest temperature 102.5° F. He said, "I believe that I have pneumonia, but I have coughed but once, have had no pain, and my medical friends can find no physical signs of trouble in my chest." Upon sitting him upright and making forcible percussion, distinct dullness over a limited space near the angle of the right scapula was elicited. It had required four or five days' time to render any physical signs available, and symptoms, excepting a feeling of illness and prostration, were absent. Recovery was by lysis in this case, some four weeks elapsing before the consolidation cleared up entirely. I think that few of these cases of central pneumonia terminate by crisis.

In 1895 Dr. Knodé was treating a lady of sixty for a catarrhal trouble of the throat. Being a neighbor he had called at her house, but observed a feverish condition and anorexia beyond what the throat trouble would explain. I saw her about the third day of this illness, and while there was but little cough, no pain, and the respirations not above twenty-four per minute, physical examination gave sufficient evidence of a pneumonia which ran a rather slow
course and ended in recovery. Here the physical signs only became well defined at the end of a week.

Four years ago I was attending, during the winter season, a lady sixty-six years of age with a Pott's fracture. On the sixth or seventh day after the receipt of the injury, I took Dr. Riley to the house to assist me in putting on a permanent dressing. The case up to this time had run a perfectly normal course, but we at once noticed that our patient seemed sick and was breathing rapidly. A careful physical examination demonstrated consolidation of the lower lobe of the right lung. We did not apply plaster dressing and the case went on rapidly to a fatal termination.

Another case associated with a fracture is the following: A lady of seventy, feeling some slight indisposition during the night, arose and walked through the hall to the bath room. Upon attempting to return to her bedroom, she became confused, turned the wrong way, and fell down a flight of stairs, sustaining a fractured clavicle. I dressed this with a mild form of fixation and kept the patient in bed. In a day or two I noticed that the temperature was a degree or two above normal, and that the patient showed slight mental hebetude, had a furred tongue, and was taking little nourishment. There was nothing to call attention to the chest. Three days later, these symptoms were accentuated, and there was evident aberration of the mental faculties, forgetfulness, slow perception, etc. About this time, or one week from the receipt of the injury, there was developed a slight pleurisy, and an examination of the chest now unlocked our diagnosis. She had a well-defined dull area in the right lung, which, central at first, and later extending to the surface, gave rise to pleurisy. The case went on to a fatal termination in twelve or fourteen days.
Now in the first case, the Pott's fracture, there is no doubt but the pneumonia came on after the injury as an indirect result of the depression and nervous shock of the accident, the chill being absent, as often occurs in old persons, and according to Tyson also in drunkards. But in the latter case, I believe the whole history shows that the patient's fracture was merely incidental to an insidious or migratory form of central pneumonia attended early by a form of mental confusion that caused the patient to rise in the night, a most unusual thing for her, and to lose herself and fall in attempting to retrace her steps.

Last winter Drs. Gilmore and Hoffman saw a Jewish gentleman of seventy years with me about the twelfth day of his illness and one day before its fatal ending. The history was quite interesting because typical of a certain small class or division of these senile pneumonias.

The patient was of thin, spare habit, with rather hard arteries, and was accustomed to a good deal of alcohol and tobacco. He became restless, slightly delirious, with a tendency to night vigils, and complained of some headache for two or three days before I was called. He now presented slight aphasia, dilatation of the right pupil, paresis of the left arm and leg, and pretty constant restlessness. He was stupid and could only be induced to answer questions occasionally after being thoroughly roused. There was partial retention of urine, requiring catheterization, and the urine contained a small amount of albumen. The hemi-paresis varied from time to time, and was most noticeable from the constant movements of the right arm and leg while the left members lay flaccid. He constantly threw the bed clothes off, and at times it required the services of two persons to hold him in bed. During this time there was a slight increase of temperature 100° F. to 101° F., and the pulse was rapid and
rather thready. No cough occurred at any time. About the eighth day of the illness it was noticed that he breathed rather more rapidly and was somewhat cyanosed. A slight dullness which had been noticed from my first visit, and which in view of the prominence of the nervous symptoms was considered of secondary importance, was now found to have extended so as to involve nearly the whole of the lung, thus showing that the disease was undoubtedly pneumonia of a masked form from the outset. The patient died about the thirteenth day of the illness from asthenia, the paralysis not having increased much, and the pupils toward the last becoming more normal.

The co-relation of meningitis and pneumonia is perhaps more common than is usually supposed.

Professor Tyson says it is found in ten per cent of all cases. There has long been some controversy as to whether in these cases the meningitis is primary or secondary. It seems to be now well established that while a secondary form of meningitis does occur late in pneumonia, from embolism due to vegetations in the heart, and thrombosis of the pulmonary veins, yet a large proportion of these meningeal troubles is due directly to the irritation caused by the pneumonoccus of Friedländer, and that it is often merely a matter of chance which locality they invade first. A number of years ago while cerebro-spinal meningitis was epidemic in the locality where I lived, I saw numerous cases of combined pneumonia and meningitis. In the majority the lung symptoms preceded the cerebral trouble. On the other hand, I have seen a young man of twenty-two become comatose within an hour of the beginning of his attack, with retraction of the head, then rapid infiltration of the lungs, and death in two or three days. Eichorst claims to have found the bacillus lanceolatus in the purulent meningeal exudate in these cases.
This would explain the close clinical relationship of cerebro-spinal meningitis and croupous pneumonia, and explodes the old theory of metastasis, such an explanation of transference of disease being no longer tenable in the light of bacteriological investigations.
Mr. President, Ladies, and Gentlemen:

When I stated the subject of this paper to our honorable recording secretary I had in mind the discussion of one case only, but found it necessary to incorporate three others in order to bring before you all the salient points, the ultimate object being to provoke discussion with a view to a clearer understanding of a few complications which I believe to be seldom met with in ordinary practice. All these cases were among the farming community, the patients being healthy and vigorous, accustomed to the fresh air and sunshine, possessing healthy minds in healthy bodies.

Case I.—Mrs. H., aet. 17, married. First attack occurred July 14, 1896, while fanning a patient upon whom a laparotomy had been performed during the dressing of the wound. It appeared to be syncope, and I directed her removal from the room, placed in the horizontal position, and cold water applied to the face and head, with inhalations of camphor. Recovery not being prompt, my attention was called to her. Found her badly cyanosed, respiration suspended, muscles relaxed, still unconscious, heart’s action arrested. Introduced the finger far back into the throat and relieved the spasm, securing one labored inspiration with an immediate return of the spasm. Chloroform, Am. valerianate, and amyl nitrite were found useless. An attempt to swallow brought on an immediate attack, and resort was had to hypodermic injection of apomorphine. Emesis brought relief in inter-
vals of one to two hours. Patient was removed to her home, one mile distant, the 15th, at 2 p.m. Soon after she was seized with an attack of tetany, which was preceded by violent hiccough. Chloroform and morphia sulph. failed to bring relief, and mechanical means were used to relax the muscles. A $3$ of kali brom. $3$ ii., chlor hyd. gr. xxxii., fl. ext. yerba. sauv., syr. simp. a $\frac{3}{2}$ i., sig. $3$ i. every half hour, with hot and cold pack alternately. Relief after six hours and recurrence in twenty-four hours. Medication was withdrawn, mechanical assistance delayed for thirty minutes, resulting first in rigidity of the muscles followed by relaxation and then catalepsy, with unconsciousness and loss of sensation. Spts. ammoniae aromaticus brought very tardy relief. Treatment was continued with varying success for two weeks and patient dismissed from immediate attention in a weakened condition, unsteady gait, with a strong tendency to tip backward.

**Case II.**—Miss W., aet. 19, sister to Case I., single. Bilious and nervous temperament. First attack August 8. Laryngismus with intermittent severe hiccough, complicated in ten hours with tetany and rigidity of the muscles of the extremities and severe pain. Some hysteria, phantom tumor lying in left inguinal region, and state of ecstacy following relaxation.

This case could not tolerate chloroform, and previous remedies all failed. Hoffman's anodyne with faradization and massage stayed the progress of the disease five days, when a sudden and unexpected collapse occurred. Patient became cyanosed, respiration eight and labored, pulse 42, rapidly fading till imperceptible. Tardy reaction from liberal doses strychnia sulph. and liberal administration of brandy.

**Case III.**—Miss W., aet 15, sister to Case I. and Case
II. Phlegmatic temperament. A picture of perfect health and fully developed young womanhood. First attack August 11. Laryngismus, tetany, and tonic spasm of all the voluntary muscles, resulting in extreme opisthotonus. Paroxymus lasting from twenty minutes to two hours. Massage and cold packs applied to the spine the only relief. Relaxation scarcely complete at any time. Perspiration copious. Pain agonizing. Consciousness not impaired. Temperature normal. Slight pyrexia about every tenth day. Patient was isolated in a darkened room and all source of irritation removed. Treatment—chloral hyd., kali brom., Indian hemp, and belladonna. Morphia sulph., administered hypodermically up to the limit, failed to give its physiological effect. Chloroform—internal administration—brought temporary relief. Retention of urine with general anasarca, July 5, catheterization necessary every twelve hours. Anasarca yielded to ordinary treatment by July 20. Tonic spasms ceased soon after. An attack of renal colic followed as a further complication, more than 100 calculi ranging from the size of a millet seed to that of a grain of wheat. When dropsy disappeared, two boggy enlargements remained, rising at the spinal column in the lumbar region and extending around the left side to the median line, a space of two inches intervening, extremely sensitive and hyperesthetic. At times the tonic spasms with opisthotonus occurred uncomplicated, the patient being able to converse freely. Relaxation produced prostration, from which the patient rapidly recovered under proper stimulation. Inco-ordination made locomotion impossible for several hours. Recovery after prolonged suffering. Somebody tell me how to cure such a case in a reasonable time.

Case IV.—Mrs. W., aet. 24, mother of two children. Symptoms very similar to Case II. Attacks began with
short spasmodic breathing increasing in rapidity till the spasm of the glottis arrested it. Followed in a half to one minute with an explosion and a sound exactly resembling the braying of a mule, though much less vociferous. This patient was naturally nervous and somewhat irritable.

What I wish to call your attention to is the apparent uselessness of all standard remedies during these complicated attacks.

Conditions common to all were nystagmus, good appetites, and hearty ingestion of food whenever permitted. Constipation with flatulence. Insomnia, little or no pyrexia, and very little anemia.
STUDIES ON NEBRASKA PARASITES.

By Henry Baldwin Ward, Ph.D., Lincoln.

The intimate relations in which domestic animals stand to man have always made the transfer of parasites from the one to the other a matter of much greater probability than exists between man and the other forms of animal life. It is but natural that the most common species of human tapeworm come to man from his two chief sources of animal food—beef and pork. The chances of accidental infection, however, are evidently much greater in the case of those forms that are intimately associated with man, and hence clearly greatest in those he holds as household pets,—the dog and the cat. It is also evident that the chances of parasitic infection are greatest in the case of those peoples or individuals who live on terms of closest intimacy with these domesticated forms. Thus, the Icelander, who is known to permit his dog to occupy, not only the same room, but even the same bed with himself, is most seriously troubled with the parasites common to dogs and man, and the infant or child is more likely to be infected than persons of maturer years. It becomes, then, a matter of great importance to determine in any region or community what is the average percentage of these animals infected with parasites, since, as will be evident later, the percentage of infection varies widely in different regions. It is, however, by no means a matter of indifference what parasites occur in the dogs or cats of a specific locality, for certain of the species are entirely harmless to the human race, not being known to be at home in man at any stage of his existence, and certain species are comparatively harmless, even when pres-
ent, while certain others are the causes of grave disorders, among them the most serious parasitic disease which is known.

In a paper on the prevalence of Entozoa in the dog and their relation to public health, published in 1867 by Dr. Cobbold, of London, perhaps the most eminent helminthologist that England has ever produced, the author emphasizes again and again the importance of helminthological studies on this animal, and the necessity of extended knowledge concerning the number and kinds of its parasites. Hence it seemed of importance to ascertain for Lincoln the extent to which its canine population is infected, as well as the species of parasites which occur in dogs here. The cat, although not so closely associated with man, and not furnishing him with so many species of parasites, has also been included within the limits of this investigation. During the last three years a large number of animals of both species have been carefully examined for parasites and the results of the examination recorded. For kindly assistance in this work I am indebted to a considerable number of students, who have been connected with the University during this time. The final examination and determination of the parasites, as well as the tabulation and discussion of the same, are the results of my own study. Many other animals of these species have been examined in part, or owing to circumstances, with less care; they have not been considered in the tabular results given, although no facts have been observed which do not bear out the conclusions reached. All of the animals included in the statistical results came from the city of Lincoln, although it is evidently impossible to say that all of them had been long residents of that place. Among the animals which were examined were representatives of all the varied conditions
of life under which these forms are found, from the half-wild strays of city streets and alleys to the pets accustomed to the luxury of a home. I shall consider first the results from the study of the dog, and later those which bear on the parasites of the cat. Table "A" indicates the degree of infection of the dogs examined, and table "B" the kinds of parasites found together with the frequency of each.

**TABLE A.**

<table>
<thead>
<tr>
<th>Total number examined</th>
<th>Free from parasites</th>
<th>With one kind of parasite</th>
<th>With two kinds of parasites</th>
<th>With three kinds of parasites</th>
<th>Slightly infected</th>
<th>Badly infected</th>
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<tbody>
<tr>
<td>Actual number...</td>
<td>20</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Percentage</td>
<td>25%</td>
<td>15%</td>
<td>40%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
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**TABLE B.**

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<thead>
<tr>
<th>DOGS INFECTED WITH SPECIES AT RIGHT.</th>
<th>Taenia marginata</th>
<th>Taenia serrata</th>
<th>Taenia serialis</th>
<th>Dipylidium caninum</th>
<th>Ascaris mystax</th>
<th>Uncinaria tricocephala</th>
<th>Echinorhynchus sp?</th>
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<td>Actual number...</td>
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<td>9</td>
<td>1</td>
<td>13</td>
<td>4</td>
<td>2</td>
<td>1</td>
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<td>Percentage infected</td>
<td>5%</td>
<td>45%</td>
<td>5%</td>
<td>65%</td>
<td>20%</td>
<td>10%</td>
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<td>Slightly infected</td>
<td>5%</td>
<td>30%</td>
<td>5%</td>
<td>25%</td>
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| Infected with...                   |                  |                |                  |                     |                |                        |                   |
| Small number of parasites (1-9)    | 1                | 4              | 1                | 3                   | 4              | 2                      | 1                 |
| With medium number (10-25)         |                  |                |                  |                     |                |                        |                   |
| With large number (25-100)         |                  |                |                  |                     |                |                        |                   |
| With very large number (100-500)   | 1                | 4              | 1                | 3                   | 4              | 2                      | 1                 |
| Average number of parasites in each animal infected with the species | 1                | 12             | 1                | 100                 | 5              | 4                      | 1                 |
For comparison with this I have records of only two dogs from any other part of the state. These were examined at Table Rock last summer by one of my students. One individual contained a dozen specimens of *Taenia serrata*, and the other harbored one hundred and fifty-two of the same species, but no other parasites were found in either. To compare the results of similar examinations that have been made in other parts of the world I compiled a table, from that given by Deffke, with the addition of recent investigations made in Washington, D. C., and in Lincoln.

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<th>Examiner and Locality</th>
<th>Kula, Ceylon</th>
<th>Wellington, New Zealand</th>
<th>Washington, D.C.</th>
<th>Copenhagen, Denmark</th>
<th>Kula, New South Wales</th>
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<td>Washington, D.C.</td>
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<td></td>
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<td></td>
<td>Hemistoma alatum</td>
<td>Taenia serrata</td>
<td>Taenia marginata</td>
<td>Taenia coenuros</td>
<td>Taenia coenuros</td>
<td>Taenia serrata</td>
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| No. of animals examined | Percentage infected |}

The table lists various parasites found in dogs, with the number of infected individuals and the percentage infected for each species.
The first and last thirteen columns may be dismissed without particular discussion since the parasites listed in them are not found in man, or are so infrequent and so harmless as to be of little importance in our present consideration. Considering the tape worms which alone are worthy of attention in the present connection, it may be said that *Taenia serrata* does not occur either as an adult or a larva (*Cysticercus*) in the human system. *Taenia marginata* has been said to occur in man in its larval condition (*Cysticercus tenuicollis*) but the weight of authority seems to disprove this statement, and to demonstrate that these were cases of incorrect determination of the species of parasite found. *Taenia coenurus* is also foreign to man; it is, however, of great hygienic importance since it is the cause of the so-called "gid" of sheep, a disease which in some parts of the world entails a serious loss to sheep raisers. It will be noticed that the species is not known to exist in America as yet. *Taenia serialis* is a rare form at most; it has been met in Europe and in Washington, though not included in the lists tabulated. It is not known to be of pathological importance. *Dipylidium caninum* is found in man rarely, and usually only in children of immature years among whom it seems to be not very uncommon. The intermediate host is the dog flea, and the infection comes through the accidental swallowing of some of these parasites, which have come from a pet dog in the house. This, of itself, is sufficient reason for training children to avoid fondling household pets, at least in such an intimate way as is frequently seen.

There remains to be considered, then, merely the single species *Taenia echinococcus*. The adult form, which lives in the intestine of the dog, is an insignificant tapeworm, consisting of only three or four segments, and having a
total length of not more than 5 mm. Its larval form, however, the hydatid, known as *Echinococcus*, which in its various forms has received something like a dozen different specific names, is the most insidious and dangerous parasite which inhabits the human system. It will easily be seen how serious an evil the presence of the adult in the dog must be regarded, since the eggs thus set free from the canine intestine would be scattered here and there with the dust of the dwelling or its immediate surroundings, and would easily by chance reach the intestine of a human host and there be hatched out; the larva would pass to some point in the abdominal cavity, there to attain gradually its enormous development with probable fatal results to the host. It is certainly fortunate that this form is so rare in America as not to have been found in the course of the systematic investigations quoted here. It does, however, occur, since the adult has been found in Washington on at least one occasion. Sommer has also listed one hundred cases of the occurrence of the *Echinococcus* disease which are recounted in the various medical publications of the country for the last fifty years.

Having thus considered the characteristics of each species of the more important dog parasites, let us review a few facts with reference to the frequency of these forms in our own country. It will be noticed that Iceland and Australia are the only localities in which investigations have been made, that show a larger percentage of dogs infected than was found in Lincoln, while the number infected in Denmark, Prussia, and Saxony is decidedly less. A closer study of the table also shows, however, that the high percentage of dogs infected in Lincoln is due to the extraordinarily large number of hosts that harbored *Taenia serrata* and *Dipylidium caninum*. With reference to the first of these, Lincoln dogs were three
times as frequently infected as those from any other part of the world, and very many times more than those from regions listed. With reference to *Dipylidium*, it will also be noticed that it is present in somewhat larger percentage than is found anywhere else in the world, and in a decidedly greater percentage of dogs than is shown for almost all places. So far as the other species of parasites are concerned there is, in the first place, at least as small a percentage as in other localities, and the species which have already been designated as peculiarly dangerous to the health of man, or of some of the domestic animals, are entirely lacking so far as the limits of the investigation go. In other words, though the total percentage of dogs infected is larger than has been found in most places, yet the most dangerous parasites seem to be entirely lacking, and the excessive total percentage is due to an unusual number of two species in particular, which are not to be regarded as dangerous parasites. So far as the Washington dogs are concerned, the total percentage is again very much greater than in most places. This is due, not to the presence of the more dangerous forms, but to the large number of forms which, in themselves, are comparatively harmless. Regarding only the more recent, and presumably more careful examinations, those listed in the last four lines of the table, it may be said that the number of kinds of parasites found in the various parts of this country is only about two-thirds as great as the number of species reported from Germany. If it be asked, then, what are the causes which give us, on the one hand, a large percentage of harmless parasites, and on the other, excessive rarity or entire lack of the more dangerous forms, I believe that some part of the answer at least may be given at once. The recent settlement of this part of the country, and the uncontaminated condition of fields
and pasture lands, is undoubtedly a reason for the existence of a less number of parasites than are found in the longer settled portions of the world. But in addition to this, and, I am inclined to think, of even greater importance, is the general prevalence in this western country at least, of the large slaughter-houses. According to the primitive mode of slaughtering which was in general vogue throughout the country a few years ago, and which is still practiced in many of the more conservative portions of our country, animals were slaughtered on the farm, or in some temporary slaughtering-house, and the remains were thrown to the dogs or hogs as the easiest way of getting rid of them. In this way the larval forms reached their final host, and the number of parasites was unquestionably augmented. Under the present conditions the various parts of the animal are utilized to such an extent that, as the packers say, "The only part of the hog which goes to waste is the squeal." By this means all the larval stages, particularly of the tapeworms which are present as bladder-worms in the omentum or in the connective tissue of various parts, are destroyed and never reach their ultimate host.

Thus it is that *Taenia marginata*, *Taenia coenurus* and *Taenia echinococcus* are so rare as to be almost lacking. It is evident also that with more perfect methods of slaughtering and more complete utilization of the fragments, the number of stages of larval tape worms which reach the final host will be still further diminished, and the danger from such parasites proportionately removed.

In Berlin, Germany, it has been shown by Deffke that a reduction in the number of canine parasites has taken place since the introduction of compulsory meat examination, and the destruction of infected portions of all animals slaughtered.
A further support to this opinion seems to be found in the abundance of *Taenia serrata* in dogs obtained in Lincoln. The larva of this parasite is a bladder worm (*Cysticercus pisiformis*) found abundantly in the rabbit; the latter is not only extremely common in this region, and frequently hunted by dogs as a matter of mere sport, but also if used as human food, dressed at home or in the smaller butcher shops, where the refuse easily falls in the way of dogs of all kinds. Thus not only the natural hunting proclivity of the dog, but the element of chance as well, favors the increase of this particular species of parasite.

It may then be properly affirmed that, although the dogs in this country are apparently more seriously affected with parasites than their relatives of modern Europe, they are yet not such a menace to public health, since the parasitic species peculiarly dangerous to the human family at least are either wanting or extremely rare. This, however, does not mean that intimate association with the dog tribe is more worthy of encouragement here. If for no other reason than the extreme abundance of *Dipylidium caninum*, it would be best to limit the association of dogs and children, since this form is a comparatively frequent parasite of man in his earlier years.

The records that have been kept of the parasites of cats, which have been subject to a complete examination, during the past three years, are also given in the two following tables (C, D). As compared with the dogs it will be seen in the first place that fewer cats are free from infection, and in the second, that a smaller number of species of parasites has been taken from the cat than from the dogs of this region.
TABLE C.

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<tr>
<td>Actual number</td>
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<td>Percentage</td>
<td>100</td>
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<td>60</td>
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TABLE D.

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<tr>
<td>Actual number</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>14</td>
<td>5</td>
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<tr>
<td>Percentage infected</td>
<td>25</td>
<td>15</td>
<td>35</td>
<td>70</td>
<td>25</td>
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<tr>
<td>Percentage slightly infected</td>
<td>25</td>
<td>15</td>
<td>20</td>
<td>55</td>
<td>15</td>
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<tr>
<td>Percentage badly infected</td>
<td></td>
<td></td>
<td>10</td>
<td>5</td>
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<tr>
<td>Average number of parasites found in cases infected with each</td>
<td>1</td>
<td>6</td>
<td>19</td>
<td>9</td>
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Again the total number of parasites present in any one individual falls far short of that found in some of the dogs. Thus the largest total number of parasites taken from any cat was less than sixty, whereas four dogs out of twenty harbored from two hundred to five hundred parasites each. Furthermore, twelve of the nineteen infected cats contained each but a single species of parasites, whereas twelve of the fifteen infected dogs yielded more than one species of parasite from each host.

Among the parasites listed from cats Dipylidium caninum has already been discussed. Distoma felineum, which
is the most abundant parasite of cats in this region has been reported from Siberia as a frequent human parasite. It should be stated that the two forms are possibly not the same species; but practitioners in this region should be alert in cases of hepatic cirrhosis to see whether this form may not be the cause of the difficulty. The other feline parasites are not found in man. I regret to state that extended search has not yet discovered tables giving the frequency of parasites of cats in other parts of the world so as to afford basis for comparison with the results obtained here. It would then be hardly more than a guess as to whether the conditions represented here are favorable or unfavorable.

Zoological Laboratory,

The University of Nebraska.
TWENTY-NINTH ANNUAL SESSION. 147

TYPHOID FEVER—A CASE.

BY J. F. STEVENS, M.D., LINCOLN

Mr. President and Gentlemen of the Nebraska State Medical Association:

Much of our success depends upon our ability to correctly interpret symptoms, and this ability becomes of paramount importance when, in the course of a disease, new symptoms arise which point either to a direct result of the malady or to some intercurrent disorder. The average physician gets on very well in the treatment of uncomplicated cases of any described disease. But how often does it occur that an avalanche of the unexpected sweeps away not only the patient, but, incidentally, at the same time, much of our reputation. This alone is deemed by the writer sufficient reason for presenting the following case, together with some observations as to the necessity of correctly interpreting the significance of a chill or chills occurring in the course of typhoid fever.

J. W., aged twenty-four, was admitted to St. Elizabeth Hospital, October 16, 1896. Had been confined to bed two weeks previously, and had come by rail twenty miles the morning of admission.

weak and with a pinched look on face. Diagnosis typhoid fever at end of third week. Previous treatment unknown.

During the first two days temperature reached 103° in the evening and dropped to 101° in the morning. On the evening of the 19th it dropped to 100°, reaching 103° again on the evening of the 20th. During the night of the 21st patient was seized with violent chill lasting one-half hour. Morning of the 22d found him with a temperature of 96°. Pulse slow, steady and full, face pinched and an aspect of general weakness. The temperature rose steadily until on the morning of the 23d it was 100.6°. There were several chills on this day, and a violent one during the afternoon. By evening the temperature had fallen to 95°. Pulse slow and full. Respiration normal. Patient reacted and temperature fluctuated upward until by the evening of the 25th it had reached 102°. Voice weak and general condition worse. On the morning of the 26th a chill more severe than any of the others occurred, the temperature falling, however, to only 101°. For the first time the pulse was quickened, reaching 160, and after remaining at that point for several hours dropped to 140, but was variable and uncertain. On the morning of the 27th temperature was 99.2°. In the evening, the steady rapid sinking of the last two days terminated in death, with a temperature of 100.6°. On the morning of the 20th the left leg presented the usual appearance of thrombus in the femoral vein.

Autopsy revealed no hemorrhage, abscess, or other lesion which might directly have caused death. There were no adhesions anywhere either in abdominal or chest cavity. The omentum and mesentery had nearly disappeared. There were but few enlarged glands. Section of the bowel revealed extensive and deep ulceration, the patches varying from one-fourth inch to one and one-half inches
in diameter, and in many instances reaching the peritoneum. At one point the bowel was stained a bright yellow from fecal matter which evidently had gained entrance into the tissues through the ulcer which marked the center of the discoloration. This stained patch comprised a section of the ileum about seven inches in length. Death had evidently been caused through absorption of putrescent material at this point.

Strangely enough, in standard works on practice almost no reference is made to chills excepting as a very early symptom, and reference is then usually made to "shiverings" or "chilly sensations." Gregory, in 1826, mentions a cold stage sometimes occurring in typhus abdominalis, but drops the subject as of little importance. Elliotson, in 1839, tacitly refers to a chill in complicating pneumonia. Watson omits the subject altogether, but Niemeyer, that wonderful observer who let nothing escape detection, in 1870 says, "We may look for the approach of death if the temperature suddenly falls very low—say to 94°." He also mentions a fall of temperature as accompanying hemorrhage of the bowels, and refers to chills in various complications. Flint, in 1880, states that a sudden fall in temperature, other symptoms not favorable, may denote hemorrhage, and says a considerable decrease of temperature below normal is ominous.

Osler, in 1895, reported eleven cases of typhoid fever complicated with chills which he had specially studied in Johns Hopkins hospital, and made probably the most valuable clinical addition to this subject we possess. Usually death occurring in the course of typhoid fever is due to some complication—very few die from exhaustion when the malady pursues the classical course described in the books. A chill or chills occurring after the initial symptoms have passed by, in the writer's opinion, al-
ways demand the most careful study of the case, and if the cause be not moral, i.e., from nervous excitement, objective in nature, some new enemy to life will be discovered side by side with the foe that has already engaged our attention.

A common opinion has been that malaria is the usual cause of rigors, but recent investigations have proven that, while this may occasionally be the case, as a rule it is not. Only an examination of the blood will decide positively. The unwise administration of antipyretics, especially the coal tar derivations, will occasionally produce a profound depression of temperature. I remember once sitting up all night with a patient, collapsed with ten drops of guiacol painted over the abdomen, and coaxed into the system by means of an overlaying poultice. Suppurative inflammation of the middle ear, meningitis, pneumonia, pleurisy, pyemic abscesses of the kidney, abscess of liver or spleen, suppuration in the mesenteric veins, perforation of the bowel, thrombosis of the saphenous or femoral veins, acute periostitis, all may be, and perhaps usually are, ushered in by a rigor or rigors. A violent chill, followed by hyperpyrexia and death, may be considered as an almost certain indication of the absorption of putrescent matter in the bowel, and indeed it is fair to suppose that nearly or quite all of those cases, otherwise unexplained, are caused in this way. In conclusion let me repeat—a chill or succession of chills occurring in the course of typhoid fever is a matter of sufficient gravity to command immediate attention on the part of the attending physician.
ETIOLOGY AND TREATMENT OF MEMBRANOUS CROUP, SO-CALLED.

BY H. M. M'CLANAHAN, M.D., OMAHA.

The nature and etiology of membranous croup has engaged the attention of both pathologists and clinicians for the past fifty years. The correct treatment of this disease depends upon a right view of its etiology, and in order to get a clear understanding of the subject, I wish to call to your attention to certain facts in the history of this disease. Since 1850 two views have been entertained by the profession as to the nature of this malady: the one that it is local, non-contagious, and distinct in its etiology from diphtheria; the other that it is but a manifestation of diphtheria. Virchow, in his work on pathology, in 1847, maintained that a diphtheritic exudation was poured out into the mucous membrane, and that the mucous membrane became a part of the morbid process, while a croupous exudation was implanted upon the mucous membrane and included only the epithelial covering, and that when a diphtheritic membrane was torn away it left a raw, bleeding surface. Clinical experience, however, demonstrated that both varieties of membrane might exist in ordinary pharyngeal diphtheria. Indeed, in the same case portions of the membrane were separated, either by disintegration or exfoliation, with some portions of the mucous membrane intact, others raw and bleeding. Virchow, therefore, in 1854 abandoned this distinction and then maintained that necrosis of the subjacent tissues was the characteristic feature of a diphtheritic exudation. We know now that while this is true in some cases, it is not correct in the majority of cases of diphtheria, and, further-
more, there are cases of ulceration of the larynx in what we term croupous inflammation.

Ernest Wagner, in his work on pathology, in 1866, states that croupous and diphtheritic membranes are very much alike, and that microscopically he can discover no striking difference, and he states that the time has come to drop the distinctive words "diphtheritic" and "croupous."

Reindfleisch admits that the pathological processes are alike in both croupous and diphtheritic inflammations, but while admitting the anatomical identity, he strongly opposes the fusion of membranous croup and diphtheria clinically.

Zeigler, in his work in 1862, makes no pathological distinction between croupous and diphtheritic inflammations, and says that when diphtheria is accompanied by croupous inflammation of the larynx it is the same as the affection clinically called membranous croup. He does not, however, commit himself as to the nature of membranous croup when it occurs as a primary disease. It will thus be seen that, pathologically, there is no line of distinction between diphtheria and membranous croup. While this is true, the majority of writers, until within a few years, have maintained that the diseases were clinically distinct. Let us now briefly analyze these distinctions. They are as follows:

That croup is a local disease of the sthenic type of inflammation; that there is no lymphatic enlargement; that there is no albuminuria, no general paralysis, and that it is non-contagious. On the contrary, diphtheria is a constitutional disease of the asthenic type; that the cervical glands are inflamed and enlarged; that frequently there is albuminuria, and various forms of paralysis occur as complications or sequela, and that it is highly contagious.
No one will deny that these distinctions exist in many cases, but that they form a sufficient basis for assuming that the diseases are distinct etiologically is incorrect. Pharyngeal diphtheria is frequently a local disease, so far as symptoms are concerned, and it is conclusively established that the constitutional symptoms manifested are the result of septic poison from the absorption of ptomaines. In membranous croup the symptoms are frequently local, because of the difference in the structure of the parts upon which the membranes are implanted. Beneath the mucous membrane of the larynx there is a basement membrane, and below the false vocal cords the epithelium is columnar. This histological condition promotes the separation of the false membrane generally without destroying the integrity of the mucous membrane, and also prevents the absorption of septic material. There is, therefore, less liability to general infection. Furthermore, the lymphatics supplying the larynx have their drainage depot in the gland just below the hyoid bone, and the small glands at the side of the trachea. These are out of reach and out of sight. In cancer of the larynx there is no lymphatic inflammation, and yet no one disputes that it is the same disease as when involving the structures of the pharynx. The pharynx is covered with squamous epithelium below the floor of the nares, and the mucous membrane is full of racemose glands and lymphoid tissues. The lymphatics supplying the pharynx drain into the cervical glands. Absorption is therefore easy, and the glands are usually enlarged, not only in diphtheria, but in many inflammations of the throat. These anatomical facts dispose of some of the important distinctions between the two diseases. As to albuminuria, it is probable that this is due to the irritating action of toxins upon the uriniferous tubules, and as we have al-
ready shown that the absorption is much greater when the membrane is upon the pharynx than when upon the larynx, it is apparent why this symptom should be much more frequent in diphtheria than in so-called membranous croup. However, it has been demonstrated that albuminuria is present in cases of membranous croup. Multiple paralysis is usually a sequela of diphtheria, and in former times, when these observations were made, very few cases of membranous croup lived long enough to develop this symptom. Recently several cases of multiple paralysis have been reported as sequela of true croup. In one case under my own care there developed a paraplegia ten days after recovery from a clinically typical case of membranous croup. That membranous croup is more feebly contagious than pharyngeal diphtheria is true, for the reasons that in most cases no membrane is coughed up; that there is very little discharge from the nose and throat. We know that the germs reside in the membrane, and that, as it is not coughed up, they cannot gain access to the external world and contaminate the surroundings of the patient. Indeed, in the majority of the cases patients die from the stenosis before there is time for the disintegration of the membrane. That diphtheria is in the majority of cases an asthenic disease is true, but that membranous croup is always sthenic is not true, and the facts I have already cited as to the difference in the location of the membrane explain the reasons why more cases of membranous croup do not present symptoms of fever, rapid prostration, etc. It will thus be seen that the clinical distinctions separating diphtheria and membranous croup are not tenable. That the tide has been steadily turning toward the identity of the two diseases will become more fully apparent as I cite the opinions of the following authors:
Prof. Morell Mackenzie, after observing diphtheria in the terrible epidemic in England from 1858 to 1862, became convinced of the identity of membranous croup and diphtheria. Perhaps the most able presentation of the subject was his Jacksonian Prize essay, published in 1863.

Meigs & Pepper, in their work on Diseases of Children, published in 1877, give a separate chapter on the subject of membranous croup, but state that they are strongly of the opinion that the majority of cases are probably diphtheria.

Ashby & Wright, in their work on Children, published in 1896, say: "In the great majority of cases, if membrane be present in the larynx, the case is one of diphtheria, but in the present state of our knowledge it is not wise to take up the dogmatic position, except in so far as to view every case of laryngitis, whether we find membrane or not, with suspicion, as all such cases may turn out in the end to be diphtheria."

The American Text-Book, published in 1894, does not treat of membranous croup as a separate disease, but membranous laryngitis is treated under the head of diphtheria.

Professor Smith, in the edition of 1896, says: "Whether diphtheria or pseudo-diphtheria prevail as an endemic or epidemic, it is well known that a large majority of cases of membranous croup are local manifestations of one or the other of these two diseases, or of the two combined." But because true croup was a fatal malady before diphtheria was recognized in this country, he thinks all membranous laryngitis is not diphtheria, but says: "I cannot resist the conviction that its cause prior to 1850 was pseudodiphtheria; in other words, the presence and action of the streptococcus and staphylococcus."
Professor Rotch, in Pediatrics, published in 1896, says: "Until it is proved not to be so, pseudo-membranous laryngitis must be clinically looked upon as infectious and due to the Klebs-Loeffler bacillus." He admits, however, that some cases are probably due to the infection of other cocci.

Professor Holt, in his work on Diseases of Children, published in 1897, says: "Pseudo-membranous inflammation beginning in the larynx is almost invariably true diphtheria; i.e., this is due to the Loeffler bacillus." Again, pseudo-membranous laryngitis following primary pseudo-membranous inflammations of the tonsils, pharynx, or nose, is in the great majority of cases due to the Loeffler bacillus.

These quotations demonstrate the tendency of modern writers upon the subject of diphtheria.

Finally, bacteriology has completed the last link in the chain of evidence of the identity of diphtheria and membranous croup in the vast majority of cases. The bacilli-diphtherae have been found in cases clinically typical of membranous croup, thus establishing the positive etiological identity of membranous inflammations of the throat and larynx. When the larynx is invaded in a case of ordinary pharyngeal diphtheria, the symptoms are in nowise different from those occurring in membranous croup. Within a few months I had the opportunity of having a culture made from a case in which I intubated, where there was never any evidence of any membranous inflammation of the pharynx, and the presence of the diphtheriae bacilli was clearly demonstrated. Again, I have seen in the same family cases of ordinary pharyngeal diphtheria and other cases of so-called membranous croup, and while the personal observation of one physician is not sufficient to establish a law, the fact of being
able to identify the two diseases even in one case has convinced me of the utter fallacy of recognizing a membranous laryngitis distinct from diphtheria.

In conclusion, it may safely be affirmed that nearly all cases of membranous laryngitis are but a form of diphtheria; that the majority of such cases are secondary to pharyngeal diphtheria; that the germ may be in the pharynx and affect the larynx without there being any membrane in the pharynx. This fact I was able to demonstrate this past winter by bacteriological tests. The principal reason, however, for presenting at some length to the members of this society the evidences of the etiological identity of diphtheria and membranous croup is that our view of its etiology will control the treatment. I believe, from personal observation, that lives are sacrificed by maintaining that there is a membranous inflammation of the larynx which is not diphtheria. That view of the disease will deprive our patients of modern methods of treatment. Let me say further that the risk is all on one side. To treat a case of membranous croup as if it were diphtheria gives the benefit of the doubt to the patient and does not add to the risk of life, but to treat a case of membranous croup as if it were a distinct disease is to deprive our patients of modern methods of treatment of inestimable value. It will be a blessing, therefore, to humanity when the term membranous croup is dropped from the nomenclature of disease, and instead all diseases of the larynx sufficiently severe to produce marked stenosis be called diphtheritic croup.

Permit me briefly to direct your attention to the subject of the treatment. There is nothing new to be said, but a reiteration of well established facts may be of benefit to us. The first important point in the treatment—and one, unfortunately, which is not always in the control
of the physician, is that it should be commenced early in the disease. When parents become educated so that they will look with suspicion upon any case of croup that persists more than twenty-four hours, much will have been gained. I do not believe that there is a disease in the whole nosological list where prompt and careful treatment is so important as in diphtheritic croup. Delay is not only dangerous, but frequently fatal. The patient suffering from this disease should be at once isolated and placed in a large well ventilated room. The nurses and all those in attendance should use every means possible to prevent the spread of the contagion. Some means should be improvised for the generation of steam, so that the air may be constantly moist. Increasing experience convinces me that this is a very important point in the treatment. The patient should be kept in bed. It is unwise and unsafe to permit the child to run about. Every particle of energy and strength should be conserved.

The proper nourishment of the patient should be carefully supervised. This is more important, perhaps, than we fully realize. Food should be administered regularly, systematically, and in quantities to suit the age and condition of the patient. Stimulants are indicated in many cases, and at critical times may be the means of tiding the patients over.

When diphtheritic croup is secondary to severe laryngeal diphtheria, we should pay particular attention to the condition of the heart. In this form of the disease the three great dangers are asphyxia, sepsis, and heart failure. When, therefore, the pulse is rapid or abnormally slow, heart stimulants are indicated. Here strychnia is the sovereign remedy, and the dose should be larger than is generally given.

Antitoxin should be administered in every case at the
earliest possible moment. The dose is to be repeated in the course of twenty-four hours if the symptoms of stenosis progress. Where the case is seen late, that is, when stenosis is already well marked, intubation should be performed. The fact is, many of these patients do not really choke to death, but they die from exhaustion resulting from the constant muscular effort to pump air into the lungs. The strength thus wasted can be conserved by prompt intubation. Where the symptoms are urgent when the case is first seen, I am satisfied it is better to intubate at the same time we administer the antitoxin. It is the observation of many that intubation is much more difficult twenty-four hours after the use of antitoxin. This is probably due to the fact that the membrane rapidly disintegrates and there is more danger of pushing it down in front of the tube, or of having the tube become occluded with loose particles of membrane. It has been my experience that if the case does not become worse for twenty-four hours after the use of antitoxin, that is, if the breathing is no more rapid or labored, intubation will no be required.

Again, in those cases where there is not only membranous inflammation of the larynx, but where the bronchial tubes, and even air vesicles, are involved, we may have recourse to the means already indicated, and, in addition, much is to be gained by the administration of nascent oxygen. In these cases the stenosis may be relieved by intubation, but there is so great an occlusion of the smaller bronchial tubes that the child may die from carbonic acid poison, just as we see cases terminate fatally in catarrhal pneumonia. In two cases under my care, after the administration of antitoxin, and after intubation, I have seen the most brilliant results from the administration of oxygen. Where the physician is not able to pro-
cure antitoxin, or where he is not in position to intubate, then the most promising treatment is by calomel fumigation. Dillon Brown, of New York, has reported a large number of cases, mostly in private practice, in which he has resorted to this treatment, with an average mortality of only 50 per cent.

In conclusion, when we think that ten years ago the mortality from this disease was 90 per cent, and that today, under modern methods of treatment, it is from 25 to 40 per cent, we have cause for profound congratulation and are encouraged to press forward with the hope of yet lessening the mortality.
THE POSITION OF GENERAL MEDICINE AS WE VIEW IT.

BY W. S. GIBBS, M.D., OMAHA.

General medicine has made greater advances in the last fifteen years than any other science. By general medicine I mean the general practice of medicine. General medicine is the most benign of sciences. General medicine is the most Christian of sciences. General medicine is the commander-in-chief of all its allied sciences. General medicine has ever been waging an untiring warfare against general disease and all its allied powers. General medicine has many allies. Among its allies may be mentioned general investigator. General investigator has under his command many of the general sciences. To illustrate: General disease is waging warfare in some particular locality, producing some particular phenomena through some of the natural elements, either earth, air, or water. General investigator calls upon his ally, general chemistry, or general microscopy, or general pathology, and thus, through general investigator, general medicine determines the exact etiological factors which result in producing these certain phenomena, which certain phenomena are an ally of general disease. General investigator, this great ally of general medicine, is the most persistent, the most painstaking, the most patient, and the boldest, perhaps, of all the allies which he is able to command. To illustrate: General medicine learns of the great ravages which some specific disease is making upon the human race in some distant part of the earth, and he calls upon this ally, general investigator, and sends him forth unprotected and alone save by his scientific knowl-
edge of our art into that far distant country. He enters that country, insinuates himself into the very camp of the enemy; sits down by the bedside of the person who has this disease,—perhaps it is a disease known in medical parlance as cholera Asiatic. Here he patiently investigates all the environments of the patient—the climate, the soil, the water, the air—and with his microscopic vision he penetrates into the very tissues and solids and fluids of the body; investigates all the secretions and excretions, in untiring search for the exact etiological factor which is producing these peculiar phenomena, and he is rewarded in his search by discovering that a specific animalcule, or germ, exists here peculiar only to this disease. He investigates many other like cases, and he comes to the grand conclusion that it is always necessary that the comma bacillus must be present in a particularly viable condition, with specific environments, in order to produce these particular results. He pursues his investigations still further, observing all the peculiarities of development and growth of the comma bacillus; all the peculiarities of its environment, and after many years of painstaking investigation he has determined the exact position in the human economy which this ally of general disease must necessarily occupy in order to produce its specific results, and now he reports. He determines that this agency flourishes or locates, develops and matures always within the alimentary canal and never by any possible means can it produce Asiatic cholera in any other way. Now general medicine, after hearing the report of the general investigator, determines to wage an unceasing warfare against this enemy of mankind until he shall have succumbed.

Now, general therapeutics, another ally of general medicine, through his observations, determines the effects
of the various therapeutical agents upon the existence or
growth or development of the germ, and he discovers that
this germ can only exist in an alkaline condition; that it is
only through alkaline channels that it can be introduced
into the alimentary canal. He finds, too, that it is impos-
sible for it to exist in a strongly acid medium, and that by
the administration of acids, notably the aromatic sulphuric,
he is able to cope with and destroy the effects of this
great enemy upon the human economy. Thus we find that
general therapy and general investigator are close allies
and both important allies of their commander, general
medicine.

Again: General medicine is cognizant of the existence
of some terrific morbific agent which is preying upon the
vital existence and continued growth in many communi-
ties of all lands, particularly upon the young, without
regard to climate, or temperature, or soil, which is carry-
ing away as if by a flood thousands, yea, hundreds of
thousands, of the children and youth of all classes and
conditions, no age being exempt.

Now he again calls on his friend and ally, general inves-
tigator, who, by the same patient and persevering toil and
skill and observation as heretofore manifested, determines
in like manner through the instrumentality of other allies,
to investigate the etiology of the disease which is pro-
ducing these peculiar phenomena, notably diphtheria.
General investigator, by the aid of his former allies and
friends, general chemistry and general microscopy, deter-
mines the exact etiological factor, and gives it the name
of Klebs Loeffla Bacillus. Now general investigator turns
his attention to the habits and mode of operation of this
specific germ; to his environment, etc., etc., and he deter-
mines that he is capable of not only operating locally, but
generally, through all the fluids and secretions of the
body. Now he calls again on general therapeutics and general pharmacy, and after as great and as careful and as painstaking observation, occupying years of untiring zeal and energy, and after empirically treating more or less successfully conditions brought about by this germ, and after discovering that it is not the germ altogether which produces the phenomena, but the toxines produced by the germ, this general observer discovers, through long series of experiments, the specific therapy which destroys the results of the operation of the germs, namely, anti-toxine serum.

At the same time, another investigator in some other section, and operating on a different line of thought, and in observing the operation of the germ itself, notices that in the normal conditions of the blood it is possessed of power which, while not altogether sufficient to cope with and destroy the bacilli, makes most strenuous efforts to do so, namely, the white blood corpuscles; and so he sets out to discover some means whereby he can reinforce them, and, if possible, increase the power of the white corpuscular element to such an extent that it will be able to destroy the bacilli more rapidly than they are produced, and he discovers that he is able to produce a therapeutic agent from the blood of some of the lower animals, through careful and scientific processes, which contains the nuclei and some of the proteid substances of the white blood corpuscles, and in such a viable condition that when it is introduced into the circulation either through the alimentary canal or hypodermically it will immediately and rapidly and efficiently increase the number of the white blood corpuscles to such an extent in the human blood that the blood itself is able to prey upon and destroy the Klebs Loffla bacilli so rapidly that it is not able to produce toxines in sufficient quantity to produce the phenom-
ena of diphtheria—namely protonuclein. So that while the physician of fifteen years ago was armed only with ordinary blood tonics and stimulants, such as mercury, quinine, and spiritus frumenti, and could only partially—and hardly partially in severe epidemics of this disease—cope with it, to-day the general practitioner steps out into the arena armed with anti-toxine serum and protonuclein, both of which may be administered at the same time perhaps, both with beneficial results, and feels confident of success.

I cannot desist in this connection from mentioning that great ally of general medicine, general pharmacy. General pharmacy, in the last decade and a half, has made as great advancement and has been as efficacious in aiding general medicine perhaps, as any of his allies except general investigator. Through the instrumentality and efforts of general pharmacy, preparations, elegant and eligible, in almost unlimited numbers, have been placed to the use of general medicine and have aided greatly in his success. Not only have medical preparations and medical formulae been produced in the most palatable and efficient forms for administration, so that the best results of the various chemicals and drugs which are at his command may be produced, but he has also produced a great array of food preparations in such a high state of perfection, and in such palatable condition, that the general practitioner is able to nourish and tide over critical periods and conditions in the course of many of the diseases which, without his aid in this direction, he would be entirely helpless to perform, notwithstanding the fact that many of our most earnest and intelligent physicians have been slow to accept and use these preparations when they have been so kindly proffered to them.

General diagnosis, without which general medicine
would be an utter failure, is ever alert to lend his aid. General diagnosis allies himself closely with general chemistry, general histology, general physiology, general pathology, general anatomy, general symptomatology, and sometimes general surgery. Through the application of general chemistry general diagnosis is enabled to investigate the various conditions, the various fluids, secretory and excretory, of the body, and determine whether they are physiological or pathological, and with the greatest accuracy decide their pathological condition. By the aid of general microscopy the diagnostician determines many conditions which it is impossible for general chemistry to determine, and general chemistry and general microscopy have decided various pathological conditions of the various secretions and excretions of the body and of pathological growths, which neither alone could hope to accomplish. He may be aided by the general surgeon through exploratory incisions. The general diagnostician is also aided by general symptomatology, which is in equally as high a state of development. These allies, together with the aid derived from mechanical appliances, is able to determine with great accuracy various pathological conditions of any and all the organs and tissues.

Among the most recent modern mechanical appliances which are of greatest benefit might be mentioned the phonendoscope and the ampliphone. By means of these implements the diagnostician is able to determine with greater accuracy than ever before the exact outlines of internal solid organs; to determine whether they are hypertrophied or atrophied or deformed in any way through percussion-oscultation. By the same instruments he is able to separate more accurately than formerly the various sounds of the heart, and he can locate with greater accuracy than ever before the exact lesions thereof. These instruments
are equally as useful in differentiating the various pathological conditions of the pulmonary organs.

While the general diagnostician may in rare instances require the aid of the surgeon in determining the exact pathology of diseased internal parts, he, nevertheless, under the guidance of the conservative general practitioner, is always cautious in invoking his aid. We have said that general medicine is exceedingly cautious. General medicine, through long years of practical experience, has become exceedingly alert and watchful and careful. To illustrate this great caution of the general practitioner, general diagnosis has observed in a given case the symptoms which point with unerring accuracy to a condition which is known as appendicitis, one of the most formidable allies of general disease. General prognosis, allied to general medicine, has learned, after long years of continued observation and collection of important statistics, that in this disease, under the benign influence of the application of proper therapeutic agents, a very large per cent of them recover without surgical interference. While general surgery perhaps is our most dashing and aggressive ally, general surgery nevertheless has probably in many instances not been instrumental in conserving the health of many of his victims, or increasing the happiness of the victim's friends. Recent general statistics show that a larger per cent of recoveries take place under the conservative management of the practitioner of medicine in this disease than had formerly been supposed, and that, by careful medical treatment and nursing, a very large per cent of them recover, or at least bring the case down in its latter stages to a condition requiring only a simple surgical operation. Not many years ago your humble servant listened with awe to the profound statements of surgical men extolling the virtues of early oper-
ation, and urging that operation was always necessary in every case, while to-day the general practitioner, through his great caution and watchfulness, is able to see many of his patients make a rapid and successful recovery without invoking the aid of general surgery.

Within the last fifteen years the general practitioner has been greatly aided by the efficient help of the comparatively new woman, the trained nurse. Without the trained nurse the modern physician in the most formidable cases feels himself clipped of one of his most efficient helps.

I have said that general medicine is the most Christian of sciences. Thus we see that the general practitioner, like the great physician, the lowly Nazarene, is continually going about doing good.

So we see that general medicine, through the aid of his many efficient allies, and upon whom he calls with the greatest confidence and knowledge that he will receive their support, has been raised to the high position which he now occupies, as it were, by the operation of the great Ferris Wheel, or the elevating tower of the Trans-Mississippi Exposition, or perhaps by the phenomenal air ship, from which high plane of operation he views with extended vision the long zigzag line of all his allied forces. Here advancing, there receding, but all together advancing upon the entrenchments of the enemy—general disease.

General disease in the last decade and a half has been shorn of the influence of many of his allies. He has been discovered in his most secret lair through the agency of general investigator, and found to be supported most largely by general bacteria, his most potent ally. General disease not only has general bacteria for an ally, but has many other allies who are equally as formidable, among whom might be mentioned, particularly in early
times, general government, general ignorance, general filthiness, and general cussedness.

General disease, against whom general medicine has fought so valiantly for lo! these many years, is beginning to weaken. General bacteria has been discovered; many of the specific germs have been isolated and studied; some of them have been completely vanquished. General governments have seen the benign influence, the beneficial effects, of general medicine, and in some instances have allied themselves to general medicine. General government has been the instrument, through the direction of general medicine, of establishing quarantine, so that in many instances he is able, through quarantine, to prevent the spread of the army of general disease. General governments, the most intelligent of them at least, are fostering general investigator, and by their aid we may fondly hope that general investigator will be able to isolate and study many other of the etiological factors of disease which we perhaps now can only imagine.

In many of our municipal governments boards of health have been established, efficient and under the direction of general medicine, thereby reducing to a very great extent the spread and the mortality of general disease.

General ignorance, through the educating influence of general medicine, has been dispelled, and general enlightenment has been enthroned to a considerable extent.

Through the influence of general hygiene, under the direction of general medicine, general filthiness is disappearing. Cities are becoming more numerous in which health commissions are established and successfully operated. But for general cussedness, aided by general quackery, I presume there is not a finer illustration on record than the recent Nebraska State Legislature.
POST-TYPHOID PERIOSTITIS.

BY WILLSON O. BRIDGES, M.D., OMAHA.

Periostitis, as a sequel of typhoid fever, while said to be not particularly uncommon, finds very little place in the text-books on internal medicine, and to the physician meeting with such cases there is very little satisfaction in the care and management of patients thus affected to be found even in the latest works on surgery. At least this has been my experience. The two following cases have occurred under my observation. Mrs. P., aged thirty, married, the mother of one child six years old, had enjoyed good health always, with the exception of a dysmenorrhea. She was taken ill December 6, 1898, with typhoid fever, which ran a very severe course, terminating favorably about the middle of the following February. The only complication of any note was a moderately severe phlebitis, involving the left femoral vein, which entirely subsided. April 15, having been up and about the room for two weeks, there was noticed a decided lameness of the right leg, soon leading to the discovery of tenderness over the right tibia. In a week there was so much pain that she could scarcely bear any weight on the leg. April 21, my attention was called to the case. At about the middle of the anterior surface of the right tibia, to the inner side of the crest, was a prominence five centimeters long by two wide, which was very hard and exquisitely tender. The pain was quite severe and continuous. There was increased heat and some redness about the parts. The patient was placed in bed, with the foot elevated, and the tincture of iodine applied daily for three days. No relief whatever ensued, and on April 24,
under chloroform anaesthesia, a free incision was made the length of the swelling, through the periosteum to the bone. A slight amount of serous exudate appeared, but the periosteum was still adherent. The wound was thoroughly irrigated with a bichloride solution, \( \frac{1}{400} \), and an iodoform dressing applied. In a few hours complete relief from pain followed. The wound was dressed daily and healed in about ten days without further trouble.

**Case II.**—Mr. H., thirty-eight years of age, married, clerk by occupation, family history unimportant, excepting that one brother died of acute pneumonic phthisis. In November, 1895, he had a mild attack of typhoid fever, running about eighteen days, which was followed in a week after convalescence by a relapse of great severity, attended by maniacal delirium, profuse intestinal hemorrhages, high fever, and albuminuria. The course of the fever extended from December 23 to February 3. The temperature did not entirely reach the normal. At the latter date he began to have intense flying pains through both legs, with tenderness along the nerves; was exceedingly restless, sleepless, and hysterical. This state continued for about two weeks, during which time a diagnosis of multiple neuritis was tentatively made, when there commenced to develop local swellings, attended by more continuous pain and clearly defined areas of tenderness. At this time a tendency to the accumulation of feces in the rectum, in spite of daily evacuations, occurred, necessitating the removal of large quantities of fecal matter by means of the finger on two or three separate occasions. By March 22 the conditions were as follows: the patient was considerably emaciated, temperature 99.5 to 100.5, pulse about 100, appetite fair, nights restless. At the junction of the last costal cartilage and the right side of the sternum was a hard, round
swelling, twelve centimeters in diameter, tender on pressure and the seat of considerable pain. The anterior surfaces of both femora were the seat of similar swellings, that of the right being much the more prominent and more tender. They were in corresponding locations, extending from a little above the patella to the middle transverse line of the femur, and laterally occupying the whole anterior surface. Over the right tibia, just below the insertion of the patellar tendon, was another prominence, presenting the same characteristics as to tenderness on pressure, hardness, and local heat. This occupied an area two centimeters wide by six in length. Over the left tibial anterior surface, at the junction of the middle and lower thirds, was still another prominence the size of a half filbert, presenting similar characteristics. The patient had been on a varied tonic course with iodides in increasing doses. Guaiacol was given internally and applied externally. Locally, ice or heat was also used, according to the relief from pain obtained. April 1, slight fluctuation was noticed on the costo-sternal swelling, when a free incision was made, giving exit to a small amount of thin, sero-purulent fluid. A probe readily passed down to the cartilage. The wound was thoroughly cleansed with a three per cent pyrozone solution, and irrigated with bichloride \( \frac{1}{2} \), when an iodoform dressing was applied. A relief to pain in this region occurred, the discharge increased in amount, became more purulent, the swelling decreased, and in six weeks the opening closed, leaving only a slight indentation. A bacteriological examination of the discharge a few days after the operation, by Dr. Gifford, revealed only the pus cocci. With the advent of warm weather there was soon improvement in his general condition; he was able to walk about with the aid of crutches, but the remaining
swellings persisted, with occasional slight remissions both as to size and tenderness. August 22 there was found well-marked fluctuation in both tibial swellings. The patient was anaesthetized and a free incision made in each. The right was eight or ten centimeters long, gave exit to a small quantity of sero-purulent matter, and exposed an area of denuded bone six by two centimeters. The periosteum was necrotic over this area, and at the upper part of the incision was a shallow, carious cavity in the bone. This, with the area of denuded bone, was thoroughly curetted, the necrotic periosteum was cut away, and the wound irrigated and dressed as usual. The left tibial swelling was treated in a similar manner, but no carious bone was found. Both wounds were healed in about six weeks. From this time to January 15, 1897, several other foci developed, one on the postero-lateral surface of the left tibia, one on the outer border of the left ulna, and one on the lower anterior surface of the right tibia. The two former disappeared spontaneously, the latter was operated upon January 15, 1897. The patient was attending to business part of the time, going about on crutches, and in February went south. He returned about two weeks ago much improved in general health, and was able to be about freely, with the aid of a cane. No new developments had occurred, but the femoral swelling on the right leg is still marked, tender to firm pressure, and occasions slight inconvenience in walking. The left has almost disappeared.

The general treatment has consisted in the administration of guiacol in doses reaching twenty drops, with strychnia, gr. $\frac{1}{20}$, the bone marrow extract, and at times iron and iodides. The greatest benefit appeared when on guiacol. Locally, guiacol, ice, heat, poultices, were used at different times.
The question of greatest moment in the management of this case was as to operative interference. The patient was much averse to such, unless clearly indicated, and the text-books at my command gave me very little if any aid. Several surgeons saw this case and were indifferent to operation. The fact of spontaneous subsidence and disappearance of some of the areas involved led to a procrastination about operating upon others which I am sure delayed recovery.

In volume XXII., of the Annals of Surgery, an article upon "Post-Typhoid Bone Lesions" appeared from the pen of Dr. Harold C. Parsons, assistant in the clinic of Dr. Halsted, in the Johns Hopkins Hospital. This paper came to my notice while in attendance upon Case II. above reported, and gave me more satisfaction in a study of the subject than could be obtained from any other resource at my command. In the Toner Lecture, 1876, Parsons writes, W. W. Keen quoted forty-one cases, thirty-seven of which had followed typhoid fever. In the same year Sir James Paget described most fully, from the clinical standpoint, an inflammatory condition of bone occurring at various periods after typhoid fever, pursuing a more or less chronic course with but little tendency to spontaneous recovery, except after long periods of time. He had seen some seventy cases, all after typhoid fever. The discovery of the Eberth-Gaffky bacillus, as the specific cause of typhoid fever, led to the establishment of a direct specific connection between this disease and the bone lesions which followed. Ebermaier, in 1887, found in two cases of suppurative periostitis, following typhoid, the Eberth bacillus in pure culture. Orloff, in 1889, found the same in a periosteal abscess six months after typhoid. Achalme, Melchior, Golgi, and others have had a similar experience. In these cases the
typhoid bacillus was regarded as the sole cause of the pathological condition in the bone lesion sequelae. Other writers have reported finding pus cocci alone in the discharge, and also those associated with the Eberth bacillus. That this bacillus has pyogenic properties has been proven beyond question by Orloff and Adenot, who succeeded in producing suppuration by injection, subcutaneously, of pure cultures, the pus showing this bacillus alone. The experiments of Golgi are of interest in this connection. He injected the pure culture at some distance from the seat of fracture in a long bone in the lower animals, with the result of producing suppuration at the point of injury; the pus showed the typhoid bacillus alone.

Dr. Parsons, in his article in the *Annals of Surgery*, reported six cases observed in Johns Hopkins Hospital Clinic, five of which were worked out bacteriologically. In four out of the five the typhoid bacillus was found in pure culture; the fifth case was one of mixed infection, the lesions of the radius showing the specific germ associated with the staphylococcus pyogenes citreus, and the tibial lesion the staphylococcus pyogenes aureus, alone.

The bones most commonly involved are the ribs, tibia, femur, radius, ulna, and humerus. It will be noticed in my second case that both tibiae, both femora, the costal cartilage, and the left ulna were involved at the same time. The tibia is said to be most commonly affected.

It is typically a post-typhoid affection, occurring after the fever has entirely subsided, and sometimes as late as several months afterwards. The latest recorded observations are from between ten and a half to eighteen months, following the disappearance of the fever. In one instance reported by Ebermaier (Parsons) the lesion appeared on the thirteenth day of the fever.

The disease is usually chronic and the duration variable.
In suppurative cases the necrosis may persist for several years. In cases unattended by necrosis there may be subsidence and relapse, extending over a long time. In my own case, at present writing, now sixteen months after the fever the femoral enlargement on the right side is very marked, although attended by only slight tenderness, and with no tendency to suppuration. Sir James Paget refers to one patient who remained subject to repeated attacks of pain and swelling of the periosteum three years, yet without any sign of suppuration. (Parsons.)

Pain and swelling involving the bone are the chief symptoms. Fever is, as a rule, said to be absent. In my second case there was for months a daily rise in the afternoon to from 99.5° to 101° F.; the pulse is not accelerated; the appetite and digestion are not interfered with. Indications of suppuration are redness, increasing tenderness and fluctuation. The diagnosis in acute and early, well defined, chronic cases is simple. The history of preceding fever will establish a relationship. In my Case II. the severity and distribution of the pain without manifest lesion for nearly two weeks led to a suspicion of multiple neuritis. This error would hardly have occurred in any other than a case of multiple lesion.

The treatment will vary according to the type and extent of the trouble. In acute cases, such as my first reported, the indications for early operative interference are plain. The intensity of the pain, the exquisite tenderness, and the swelling are quickly relieved by a free incision through the periosteum. So early in the case rarely will any destruction of periosteum or bone be found.

In the more chronic types, the fact that spontaneous recovery does occur tends to place one in doubt as to the
necessity for operation in cases which do not present the signs of breaking down. That this might frequently be prevented by early use of the knife I think is true. Where signs of suppuration are present, an operation for the removal of all diseased structures, whether of skin, periosteum, or bone, should be done. Incomplete attempts are apt to be followed by long continued suppuration and necrosis. The persistence of the germ in involved areas has been found to continue for several years, one having been reported as long as seven.

Aside from the usual tonic line of treatment which the indications call for, I am satisfied that the internal and local use of guiacol has answered well in my hands. Amelioration of swelling and tenderness certainly followed the use of this drug in the case I observed so steadily and so long. Twenty-drop doses were reached by degrees and no unpleasant symptoms presented.

There were no effects apparent from the iodides, even when carried up to large doses, nor from the salicylites.

In the most active period of the disease rest should be enjoined; at other times, when the lesions are in the lower extremities, the use of crutches will materially aid in permitting the patient to enjoy the benefits of being more or less in the open air.
The object of this paper is to introduce to you a new instrument, or better, an old instrument in new form. Life is too fleeting to attempt a history of the stethoscope in its myriad forms. You are all familiar with it and with its claims. The most recent addition, the phonendoscope, seemed for a time destined to outclass all its predecessors, but even now it is fast losing caste. I shall not speak of the merits or the demerits of any of the recent improvements, but call your attention to my own instrument and ask you to judge for yourselves. The value of the stethoscope in percussion has only recently been receiving proper attention. The ordinary instrument requires a third hand to manipulate it, quite an inconvenience, which suggested to me the support by means of a head band and rod. It did not occur to me when I left my order for the first instrument that I had made quite a valuable contribution to the art of stethoscopy, and only a long experience and close observation convinced me that, through the medium of the rod and plates, a volume of sound was transmitted which would be of service—especially to those slightly hard of hearing. While no scientific attempt has been made to demonstrate the actual increase in volume, it is so startling as to be readily observed by an untrained ear. Another feature observed during the course of my observations is the degree of interruption in transmission of the sound waves through the stethoscope, by contact of the hand between the bell and ear pieces of the instrument; it amounts to a serious interruption in many cases. In order to secure
the greatest possible volume of sound, it occurred to me to make the instrument practically solid from end to end, and in this instrument we combine all the other features of the modern stethoscope. The hand of the operator need not touch the instrument from the beginning to the end of an examination. The hand thus removed from contact permits every impulse to pass uninterruptedly through the ear tubes, the rod, and plates to the drum membrane and the bony walls of the encephalon. If percussion is to be made, both hands are free, while the instrument is moved about by an inclination of the head in one or another direction. The support can be attached to any stethoscope, but the instrument as I show it to you is the most satisfactory.
(A) REPORT OF A CASE OF APPENDICITIS.

(B) REPORT OF A CASE OF TUBERCULOSIS OF OS CALCIS.

BY J. THEO. MILLER, M.D., HOLDREGE.

REPORT OF A CASE OF APPENDICITIS.—E. H., aged 17, a hardy school boy, consulted me on Wednesday, February 10, 1897. He stated that on Saturday, February 6, he had worked hard from noon until midnight helping to stow ice in his father's ice house, and was greatly fatigued. On the following day he experienced lassitude, malaise, general muscular soreness, and a diffuse pain throughout his abdomen, all of which he attributed to the unaccustomed and somewhat violent labor and "taking cold."

On examination his pulse and temperature were found normal, as was the abdomen, except the presence of diffuse pain or tenderness. He was given a remedy for indigestion, and admonished to keep quiet and care for himself properly. On the following day I was called to see him, and found him in bed. The only apparent change in his condition was increased pain in the bowels.

Hot applications were ordered and an opiate given. The diagnosis of appendicitis was made on February 12th and 13th, when the pain became localized in the right iliac region. It was dull, very persistent, but not wholly unbearable. Opium did not fully relieve it. Temperature elevation was moderate—one to two and a half degrees. Three or four days later induration at the seat of pain became apparent. He slept fairly well and digested his diet of milk satisfactorily. His bowels regulated themselves most of the time; occasionally he took magnesium
sulphate or an enema of warm water. His symptoms indicated a rather mild attack, and inspired the hope that recovery might be made without an operation; but on February 22, his face became anxious, his pulse over 100, and temperature 104° F. An immediate operation had become imperative. This information imparted to the parents determined their consent to the procedure, and the operation was arranged and made in the afternoon.

A four-inch, oblique, abdominal incision, down upon the indurated area, showed abdominal wall to be non-adherent to the bowels—said area was composed of inflamed adherent coils of intestine. Following the head of the colon as a guide, search was made for the appendix. The adherent coils were separated until an abscess was opened, from which issued a quantity of foetid pus, with a most penetrating fecal odor. The abscess cavity was an inch and a half wide, by more than two inches long, and irregular; and had projecting from its upper end two tortuous sinuses. Its walls were badly damaged. Their appearance indicated the existence of a necrotic process, which pointed to probable early perforation of the gut. The cavity and sinuses were thoroughly irrigated with sterilized water. Further search revealed the inflamed appendix between adherent intestinal coils, with one side communicating with abscess cavity, and with a perforation at its apex. Its mesentery was thickened and brittle, and was dissected off with the fingers. The ensuing hemorrhage ceased of its own accord. A cuff of peritoneum was dissected up, the appendix lighted at its base with cat gut and cut off. The mucous lining of the stump cauterized, and the stump covered with the cuff of peritoneum. The abscess cavity was packed with iodoform gauze. The external wound was partly sutured with silkworm gut, and the balance left open for drainage; dressings were ap-
plied and the patient put to bed. Reaction from the anesthetic was soon established, and his temperature elevation disappeared and did not return.

Following the operation the pain was modified in severity, but did not disappear until March 19. The discharge from the wound was not immoderate at any time, but the intense fecal odor persisted until March 3, when it began to subside. On the following day the character of the pain changed somewhat, and it was felt more in the wound than usual, and on March 5 the presence of a fecal fistula was declared by the appearance in the dressings of a small amount of fecal matter, which obtained through four days only. After this incident the bowels were sluggish and constipated for two or three weeks while repair was going on, and convalescence was tedious; the patient did not sit up until April 24, over two months after the operation, and a persistent small sinus did not heal until after that date.

Report of a Case of Tuberculosis of Os Calcis.—E——S——, girl, aged three years, was brought from an adjoining county, February 26, 1897. Her mother, a woman of meagre intelligence, gave the following family history: one aunt on mother's side and one sister died of consumption. One aunt and two cousins died of bone disease. She gave the following history of the child: was well up to the age of two years and nine months, when she ran a needle, blunt end first, into the sole of the right foot immediately back of toes. The needle was extracted. On the second day afterward the foot swelled at the ankle, and three or four days later, "gathered and broke" at two points below the ankle, on its outer side. About two weeks later suppuration occurred at the point where the needle entered the sole. It continued for two weeks, then ceased, and the place healed and has remained
well. The two openings below the ankle never healed. There was much swelling of the entire foot, but more especially about the heel and ankle. The superficial veins over swollen surface were enlarged, even before suppuration occurred. Two weeks after disturbance in the foot began a swelling appeared at outer angle of left orbit. This was laid open by the attending physician, and later this was repeated at different times. Six or seven small fragments of bone have come out of it, and it would not heal.

Present state: she is frail, pale, anaemic, emaciated, irritable, and fretful. She has no temperature elevation, a poor appetite, a poorer digestion, and hence impaired nutrition. She is the very picture of chronic toxaemia.

The right foot is much swollen, especially the heel and ankle, but is not painful. One-half inch below external malleolus and about an inch apart are two openings, from which at intervals flow typical thin tubercular pus. Superficial veins very prominent. Patient not inclined to use foot, but can do so to a very limited extent.

Over malar bone at outer angle of left orbit is an open sinus, discharging a thick white pus daily into the eye, presenting an unsightly appearance. Dead bone from tuberculosis was recognized as the cause of the suppuration in both face and foot and removal by operation was recommended. Patient went home, but returned March 16th for operation. Preparation was made and operation done two days later. The incision was made on the outer side of the foot from the insertion of the tendon Achilles forward through the two sinus openings the full length of the os calcis, which was in an advanced state of disease—only a mere shell remaining. With the handle of the scalpel one half of it was enucleated with little effort. The remaining portion was readily scraped out with the
curette. The wound was irrigated, dusted with iodoform, packed with iodoform gauze, partly closed by sutures, and dressings applied.

The opening at external angle of left orbit was enlarged and a number of dead bone fragments removed with the curette; the exposed surface of malar bone well scraped, and the wound packed with a narrow strip of iodoform gauze. The wounds were repacked in three days and healed without temperature elevation, or incident worthy of mention. The patient's diet was milk at first—eggs were added after a few days. She took cod liver oil, and rapidly improved in flesh and strength, and went home April 8th, and at this time is walking on her foot and has a good functional use of it.
THE OPERATIVE TREATMENT OF HALLEX VALGUS.

BY JOHN PRENTISS LORD, M.D., OMAHA.

According to the Century Dictionary, the word "hal­lux" is altered from the late Latin "hallex," or rather "allex," the great toe; "valgus" meaning bowed outward: therefore, an abnormal outward deviation of the great toe.

Though there is considerable literature upon this sub­ject, according to my knowledge little or no attention has been given the matter in any of the medical societies with which I am connected. Indeed, so little attention has been given this subject that I find that since an­nouncing the title not a few are wholly unfamiliar with its meaning. And I think that it may not be unfair to state that even among operative surgeons of considerable practice cases are by no means numerous. That they might well be more numerous, with profit both to the subjects of this affliction and to the surgeon, is the writer’s belief; and is the reason for introducing the sub­ject for your consideration and discussion at this time.

The American Text-Book of Surgery states that "this deformity is present to a slight degree in the majority of adults, and has been observed at times even in young children; but troublesome hallux valgus is met with, as a rule, only in persons beyond middle age, and in advanced life is often associated with chronic osteoarthritis. Be­cause of the wearing of a too narrow, too short, too-pointed, or badly fitting shoe, or not seldom of a similarly faulty stocking, the great toe is crowded over upon the others and inclined at a more or less obtuse angle with the inner border of the foot. As a result, the normal re-
lations of the bones of the metatarso-phalangeal joint are disturbed, and the pressure of the shoe causes bunion and periosteal irritation, and may even give rise to destructive inflammation of the soft parts and bone. Pain and disturbed locomotion are common in the more severe cases.”

In the milder cases the conditions may be palliated by removing the cause and instituting such reforms in the footwear as necessary to bring about normal conditions, a so-called prescription of common sense in footwear usually being sufficient to arrest the progress of painful symptoms in their incipiency. Where active inflammatory symptoms have supervened, local application of any of the various cooling lotions—the use of ice, or the other extreme, the use of heat—may serve a useful purpose; and the indications are sometimes most conveniently fulfilled by resorting to the poultice. The felt bunion plaster is a source of relief from pressure of these inflamed bursae, and serves to bridge over subacute attacks.

Some of the various mechanical appliances may serve a useful purpose towards correcting the mild cases and may be a means of averting operative interference. Shoes made with the toes turned inward, as though for feet in a condition of varus, is recommended. New footwear especially should be enlarged to accommodate the enlarged joint, instead of depending upon the foot to do what the last, and the shoemaker, should accomplish at the outset. Doctors seldom see cases, however, until locomotion becomes very painful or impossible; and I have known persons to suffer almost total disability at frequent periods for years before deciding that it was proper to have surgical treatment; they consoling themselves that it was only a bunion, and must needs be endured, inasmuch as it could not be cured. But a bunion is not like Banquo’s
ghost. It can be overcome by the art of twentieth century surgery, which, by the way, is like many other things—good unless you have too much of it. A perusal of recent literature upon this subject convinces me that there is a tendency towards too radical operative interference.

Dr. Robt. F. Weir, of New York, in an article in a recent number of the Annals of Surgery, not only recommends the usual chiseling away of the enlarged juxtaposed portions from the metatarsal and phalangeal bones, but removal of the sesamoids, division of the external ligament and external muscular attachments, and, not stopping here, he divides and transplants the tendon of the extensor proprius pollicis muscle to the periosteum and fibrous structures on the median side of the first phalanx of the great toe.

Ullmann transplants also the long and short flexors to the inner side of the joint.

While these measures will, beyond peradventure, cure the valgus, yet they must needs much impair the function of this important member. I cannot conceive that all this surgery is necessary, except, perchance, in most severe and rebellious cases. The results from personal experience with four feet, in three patients, confirms me in this belief. One of the joints was suppurating and required excision, and though there was extreme deformity, the tendons required no attention, and results, after nearly five years, are all that could be desired. In the other cases, which were extreme, partial excision, with removal of the sesamoids, restored the contour and secured painless function. Recent letters verify the permanence of the cures.

The curved incision (with convexity downwards) recommended by Dr. Weir I shall adopt, in future, as its
advantages are very apparent. Complete excision of the articular ends of one or both bones, formerly much practiced, has the objection of shortening the toe and impairing function unnecessarily. Severing the head from the shaft of the metatarsal or the phalangeal bones is not only insufficient against a permanent cure of the valgus, but leaves the enlargement a feature of greatest obtrusiveness in most every case. Removal of the bursal sacks should be accomplished in every case, as they are the focal points of inflammatory disturbance. When the toe does not assume the straight position readily after partial excision, division of the outer ligaments and muscle is to be recommended, when ample gauze padding between the toes suffices to hold the member in proper position. Some drainage of the wound is usually advisable, even with experienced operators, as most bad cases are in a state of inflammation, and suppuration may be provoked by sealing the wound completely. With care and prudence the operation should be successful in the hands of any amateur surgeon, and the results will justify its more frequent employment.
AUTO-INTOXICATION: ITS RELATIONS TO WOUND HEALING.

BY CHARLES C. ALLISON, M.D., OMAHA.

In a paper upon tuberculosis of the superficial lymphatic glands read before the American Surgical Association, May, 1896, Dr. DeForrest Willard said: "In cases which refuse operation, much can be gained by the prolonged use of iron, guiaol, cod liver oil, creosote, and other remedies, in operative and non-operative cases, constitutional measures, particularly good air, hygiene, and wholesome food are all-important measures." In the *Annals of Surgery*, June, 1896, Dr. Louis A. Stinson, "Upon Results and Methods of Surgical Procedure," at the New York Hospital, and at the House of Relief, from August, 1895, to January, 1896, writes exhaustively upon the methods employed in the attainment of trained regular assistants, upon the sterilization of the operative field, the hands and the instruments, and upon the dressings, and the care of the patient during the first forty-eight hours after the operation. Yet in neither paper is mention made of the early preparation of the patient, nor suggestion offered upon the future management of cases, although the latter report includes 228 cases, and nearly all important surgical cases are represented. The quotation and reference just made are from valuable additions to our literature, and the authorities are high; yet they illustrate the tendencies of teaching at this time. In the one we may infer that when operative measures are employed, the medicinal agents of acknowledged value need not be used; in the other, the personal factor, the general condition and resistance of the patient (a condition
which usually offers room for improvement) is not given consideration.

In the first, the operation is to be so thorough that even the tendency to tubercular recurrence is removed; otherwise, why not combine the medical agents of value with the surgical therapy; in the other, the chance for the absence of smooth wound repair is not thought ascribable to any internal influences.

If we inquire into the complex functions of the skin, lungs, intestines, liver, and kidneys, we must note their susceptibility to disturbances, and the threatening phenomena which follow may readily influence unfavorably an associated disease. The emunctory most useful in eliminating toxic substances is the kidney. Its excretion of a large amount of solids, that is to say, a high specific gravity, with a normal or increased amount of urine is desirable because these solid ingredients are selected from the blood; on the other hand, a continuous low specific gravity, associated with any chronic disease, must be looked upon as an indication of renal insufficiency. Auto-toxaemia may result from intestinal fermentation, a condition which offers an excellent pabulum for the multiplication of microbes in the proteids of the intestines and a sterco-raemia or enterosepsis may lead to distant cell death from a migratory colon bacillus, or a bacterial colonization ensue in an attending wound from the retarded repair in waste-saturated tissues.

The liver, which normally acts as a neutralizing agent upon the toxic ingredients from the portal vessels, may suffer cell atrophy from re-absorption of bile salts and bile coloring matter (Bouchard). The resulting cholaemia may be succeeded by a suppression of the bile secretion, and the kidneys alone remain as a safe-guard against accumulated toxic excreta. Renal inadequacy, suggested
by inpermeability of the kidney to eliminate the solids, not only in a proper ratio to their development in the economy, but in proportion to their excess from perversion of the other emunctories, is a most threatening period of auto-intoxication, and this has as a symptom a relatively diminished quantity of urine of low specific gravity. If this condition prevails for any length of time, or if the indol in the intestines is supplanted by indican in the urine, enterosepsis is a natural result; this condition follows on account of the diminished acidity of the products of digestion. The analysis of the urine, therefore, offers intelligent estimate to be placed upon the relation between waste excretion and waste accumulation.

Given under any degree of cell enervation, a wound in which groups of cells are macerated from blunt dissection or forci-pressure, with an invasion of connected tissue spaces, the hyperaemia of repair may not stop at the proper limits, the endothelial cell loses its mobility, and the phagocyte is attracted to the area of cell activity, and auto-infective influences act unfavorably upon the microscopic engagement with a resulting retarded repair of local sepsis. While properly exalting asepsis as the main factor in the attainment of smooth wound healing, we should not overlook the personal element or the frequent disturbances of nutrition due to modified waste elimination where irritation causes repair to be done by cell depleted and the material for repair altered by blood changes. The skin, the kidneys, and the alimentary canal need to be made physiologically active and the blood cells enriched by a heightened nutrition in any surgical disease, the nature of which permits sufficient time for such treatment. To be specific, water freely used internally with mild mercurialization, with urotropin and strychnia when indicated, are useful. Concentrated,
easily assimilated, wholesome food are to be selected when absorption is already retarded by a reduced glandular activity and an impoverished blood cell.

Nutrition is promoted in such cases by somatose, a concentrated albuminose which is easily absorbed, and agreeable to a sensitive stomach.

In tuberculosis, when surgical therapy is indicated, why discard medical agents of undoubted value, when experience proves that our ultimate results are better with this treatment, both as to wound repair and ultimate immunity from an embarrassing recurrence.
HAVE THE SURGEONS USURPED THE GYNECOLOGICAL FIELD?

BY W. O. HENRY, M.D., OMAHA.

Mr. President and Members of the Society:

I have chosen the subject, "Have the Surgeons Usurped the Gynecologist's Field," or is there no field for the true gynecologist aside from operative work; or, in other words, has the modern gynecologist become a mere abdominal and pelvic surgeon?

We see and hear so much of removal of tubes, ovaries, and uteri, of hysteropexy and hysterectomy, while we hear so little of general and local treatment tampons and pessaries, that one is led to inquire whether or not any women who have female diseases are being treated and cured as in former times; whether all who have some form of female trouble must undergo some kind of operation. Is there any just ground for the remark of a general practitioner that he was afraid to send his lady patients for consultation to any of the surgeons, lest the ovaries would be removed or other serious operation done?"

We cannot deny the fact that surgery has made wonderful progress during the last quarter of a century, nor can we ignore the marvelous feats accomplished in the last decade; but admitting all that can be justly claimed for this modern wonder, still is not the surgeon going too far? Is he not too radical? Does he not too often trifle with human life? Is he not too reckless many times when dealing with the human body? Is he not too inconsiderate of his patient's welfare in his boldness
and daring to make for himself a record, or add to the already long list of remarkable possibilities of the knife.

I believe in surgery, in modern surgery, but I believe in conservative surgery always, and especially so in dealing with the female organs.

Do not remove an ovary when it can otherwise be cured. Do not remove two ovaries when the removal of one will cure your patient. Do not remove the uterus unless it is so badly diseased as to be a menace to the life or health of the patient and not curable by other means.

A chronic ovaritis and salpingitis may often be cured by blisters, iodine, hot douches, regulation of the bowels, with hygienic and general tonic treatment, so that the removal of these diseased parts is not justified until faithful, intelligent treatment has failed to relieve. Not even the fact that these parts may again become diseased and require prolonged treatment is a sufficient cause for ablation.

In the last few years there has come over the profession such a craze for operations that some men are sewing up the normal lacerations of cervix and perineum which follow labor, and are taking out tubes, ovaries, and uteri, lest the victims have some future trouble with these organs.

Let us call a halt, then, and get back to the more simple, less radical, more humane, and truly scientific methods of years ago. When a hand, foot, or other external part is diseased, we do not at once conclude to remove it, either because of its present painfulness or possible future need for removal, but we make diligent, painstaking, and even prolonged effort to save the member, and if by this tedious course and careful attention we succeed in getting a fairly useful part, we feel that
the result has not only well repaid the arduous labor, but that it is conclusive evidence of a high order of skill. Why, then, should not a similar course be pursued in dealing with these hidden organs which too often are extirpated merely because they are out of sight and can not so readily be made to testify against the skill of the operator?

The curette is a simple instrument, but one too frequently used by surgeons and general practitioners who follow their lead. I am a warm friend of the uterine curette, but I must insist upon its more conservative use. Not every case of uterine inflammation nor yet of hemorrhage needs curettement. Neither do all cases of labor or abortion, which are followed by rise of temperature, require the use of this instrument.

The fact that this is a simple instrument, and the operation of curettement a minor one, and seldom, if ever, followed by immediate fatal results, together with the fact that its proper use is often a means of prompt and efficient help in very serious cases, has led to a widespread curettage, wholly unjustifiable and disastrous.

While it is undoubtedly true that this is a minor operation when skillfully done, yet, unless intelligent care be taken in selecting the cases to see that no important adhesions exist, the manipulations may unwisely disturb these and set up a violent and fatal inflammation. Or, unless proper care be exercised in preparing patient, operator, instruments, fluids, and dressings, septic material may be carried into the uterine cavity which now presents a raw and absorbing surface, and which may result in chronic endometritis, ovaritis salpingitis, or other more serious trouble. I am quite sure that many cases which require the surgeon's knife have been caused in this way. It is also evident that many cases which are made worse rather
than better by this simple operation have been made so because the operation was not well done. I wish, therefore, to enter a most emphatic protest against the slipshod and reckless manner in which this instrument is used, and urge, gentlemen, first, not to use it at all unless there is positive indication for it, and, second, to remember the importance of a careful and skillful use of it.

The desire to pose as an operator has led many men into mischievous practices, has made numerous sufferers for life, has shattered many constitutions, and left numerous wrecks along the highway of life, and filled many untimely graves.

I cannot refrain also from calling attention to the value of the Hodge and Thomas retroflexion pessaries. While the Alexander Adams operation of shortening the round ligaments has its place, and ventrofixation can sometimes be used to advantage, still they are not always required in these retro-displacements, and certainly should not be resorted to when so simple an instrument as one of these supports will cure your patient. For the anterior displacements, as a rule, the Gehrng pessary is all that can be desired if once properly fitted. I am not ignorant of the important fact that many general practitioners are already using these and various other appliances to relieve their patients, so that I do not mean to insinuate that operations are always done or even recommended in these cases. Still, on the other hand, I am sure operations are done too frequently when local and general treatment would have afforded relief. It is also further true that if the general practitioner would take more care in making an accurate diagnosis and applying prompt, energetic, and efficient treatment in the early stages of many of their cases, fewer of them would eventually fall under the surgeon's care. A case was referred to me for operation as
one of acute appendicitis in a young woman. A careful examination revealed a pelvic peritonitis due to pelvic hematocoele from arrested menstruation by sexual intercourse. Simple local and general treatment restored the woman to health. This is only one of many illustrations which might be given to show the importance of diagnosis. I am led to believe too that women are not impressed with the importance of not interfering with the monthly flow either by exposure, intercourse, or cold water injections, for, if they were numerous cases of chronic as well as acute diseases would be prevented.

Also after child birth and abortions both wives and husbands should be taught the importance to the health of abstaining from intercourse until the female parts have reached their normal condition. That excessive sexual intercourse is a frequent cause of disease, and an aggravation of pelvic disease caused otherwise, and that it may prevent a cure of disease while the patient is under the physician's care, is too palpable to require argument. That multitudes of women come under operation because of produced abortions, neglect and improper care following miscarriages and labor, no careful observer can deny. The gynecological surgeon would have a very limited field if it were not for gonorrhoea, abortions, and lack of proper attention in the early stages of female troubles.

That gonorrhoea should be prevented in women is a fact not sufficiently realized by the profession; and that when present it should be cured with diligence lest it spread to deep and important parts from which it can scarcely be eradicated is certainly not recognized by the profession as it should be; and therefore many of their cases fall into the surgeon's hands when nothing but an operation will save life and restore health.

Take another illustration. A woman suffers a slight
cervix laceration, wears a tight fitting bandage, gets up with a large retroflexed uterus, and thus goes about for an indefinite time, until finally an ovary is dragged down into Douglas cul-de-sac, and a multitude of symptoms are produced. The general practitioner, instead of treating this case energetically by ergot, tonics, and laxatives internally, iodine and proper support locally, does little or nothing, and a large cystic or adherent ovary results, which gives rise to such a train of nervous symptoms and is of so long standing that nothing short of complete removal of the diseased and offending part will give relief.

It cannot be denied that some of these cases might be permanently relieved by rest, replacement, and proper support, if done early enough. The fault, then, is not with the surgeon for removing offending parts so seriously diseased as to be irreparable, but with the general practitioner for not recognizing and curing some of these troubles while they are curable and before permanent changes have taken place in the organs. I do not mean here to criticize my brother practitioners, for I know how earnest, faithful, and painstaking many of them are, and I know only too well how difficult it is at times to make a careful and accurate diagnosis, and I am well aware of the indifference of the patients, many times to their best interests, and how little heed oftentimes they pay to the doctor's warning and advice. But after all, I merely give these as suggestions, so that, if the foregoing difficulties can be surmounted and the diagnosis made and treatment carried out early, many of these cases by purely gynecological means will be cured and will never come under the surgeon's knife.

In conclusion, then, I would say, in answer to my question, Yes and No. Yes, when he operates where he should let the gynecologist treat and cure the case. No,
when he operates to remove permanently and seriously diseased parts, or to repair injured parts not amenable to simpler measures.

As practical lessons I would suggest the following:

1. Let the general practitioner take greater pains to instruct the wives and their husbands upon the proper sexual relations. The dangers of gonorrhoea and abortions.

2. Let the physician take special care to early diagnose and properly treat female troubles while they are curable.

3. Let the surgeons be more conservative and not so anxious to operate. In other words, let the surgeons get cured of their (operatomania).
Statistics are proverbially misleading. The peculiar personal equation which enters into their compilation renders medical statistics especially untrustworthy. When the statistics of cures in malignant disease are considered, an unquestioned acceptance will deceive the credulous, to their future torment, if the final fate of their own cases be closely watched.

This is not intended to be an arraignment of the honesty of the clinical reporter, for I believe the majority of surgeons intend to be impersonal in their findings. But several factors which lack certainty enter into statistical reports.

A man will have performed thirty operations for carcinoma of the breast, and two or three years later he makes an honest effort to complete their histories. A letter of inquiry is addressed to each of the patients or her friends, and in due time information is received of fifteen of the number, showing that three of them are well and that twelve are dead or have recurrence of the disease. To the other fifteen letters no answers are returned. Now the enthusiastic statistician reasons that the ratio of the fifteen from whom no replies are received is probably the same as of the fifteen whose records are known. He therefore has three cures in fifteen operations, or a ratio of 20 per cent of successes.

This mode of computation is a perversion of facts. Cured patients are almost sure to make their condition known. A feeling of gratitude prompts them to do so.
It would therefore seem more nearly correct to base the ratio of cures upon the entire thirty patients operated upon, making three cures in thirty, or 10 per cent, instead of 20 per cent, which is claimed.

It is also possible that of the three cases reported as cured one or more may already be suffering from a slow, insidious metastasis, and if any of them should die a few months after the paper is published, the author rarely deems it necessary to publish an appendix to his article informing his readers of the real facts.

Patients reported as dying of some intercurrent disease should also be investigated with great care. The diagnosis of secondary growths in the viscera is often difficult, and physicians often hesitate to express an opinion which is likely to alarm their patients. One of my own patients is a case in point. I operated upon a lady for mammary carcinoma. Before I lost sight of her there was no doubt in my mind that she had cancer of the lung, and her friends were apprised of that fact. After her death I was informed that she had died of pulmonary tuberculosis.

Another factor which is likely to make statistics more favorable than the facts warrant is the difficulty of diagnosis early in the disease. Operations are undertaken, and correctly so, at a time when neither the clinical nor the microscopical pictures are absolutely unassailable. Justification for this is found in the more favorable results obtained when the operation is done early. Herbert Snow, of London, lays down the dictum that every tumor of the breast of a woman above the age of 35 years should be considered malignant, and treated accordingly. For he says that if the tumor is not cancerous, it is almost sure to become so. This is undoubtedly good practice, and if consistently followed would save many lives; but a growth removed in the precancerous stage should not be used in compiling cancer statistics.
Again, it is the man who has made what he considers a good record who is most likely to report his cases. He becomes enthusiastic over his successes, and, with the most honest intentions, makes his picture as bright as the conditions will warrant. His neighbor, as good a surgeon as himself, finding that his record is not as good, discreetly holds his peace.

The errors here pointed out are self-perpetuating. The surgical statistician brings together and averages the results from a number of published reports, and arrives at the conclusion that he has obtained an approximately correct result. The real per cent of cures is probably far below this; but the text-books are taken as authority, and we are narcotized into the belief that results are not so very unfavorable.

This sounds pessimistic. But the truest optimism is not that which, with closed eyes, refuses to see evils, but that which, with keen scrutiny, recognizes the evils which exist and takes measures to circumvent them. The general who persistently underestimates the strength of the enemy is easily overcome in battle. The great military commanders are men who recognize the difficulties with which they must cope and lay their plans accordingly.

These reflections were called forth by a contemplation of the wide gulf between what I believed to be the true mortality from carcinoma of the lower lip and what the usual published statistics would lead one to believe. Statements are often made that this form of carcinoma is one in which the prognosis is favorable, and tables of recoveries ranging from 30 to 70 per cent are published.

That I am not alone in these views will be shown by a quotation from Bevan in Parks' Surgery by American Authors: "The prognosis of carcinoma of the lip is that of carcinoma elsewhere. * * * " There has
been a persistent effort made within the last few years by surgeons in various specialties to improve the prognosis in carcinoma, and this has led to the publication of conflicting statistics, some surgeons claiming as high as 25 or 30 per cent of permanent cures, or rather cases which had no recurrence for three years after the operation. Most of these very favorable statistics are the result of juggling, the reporters being dishonest, at least with themselves. Permanent cure after operation for carcinoma is not common, and such cures, at present at least, form but a small percentage of our cases, probably 10 per cent, and are to be looked for, not in extensive operations demanding wide removal of adjoining lymphatics, but in the early, simple cases, where a V-shaped incision of the lower lip will remove all of the carcinomatous tissues."

The percentage of cures given by Bevan is without doubt more nearly correct than that usually claimed. But his last statement cannot be permitted to go unchallenged. It is a well established fact that cases in which glandular infection has occurred have been cured by thorough removal, and enjoyed life for many years.

Koenig states in the last edition of his work on surgery that in cases of cancer of the lower lip he removes the glands under the jaw, if they are felt to be diseased. Otherwise he is content with the simple removal of a liberal V-shaped segment from the lip. It is my impression that this is the rule with the majority of surgeons at the present time.

The chief object of my appearance before this society to-day is to plead for something more than this. In no case can we be sure that the disease is still localized in the lip. Unless the glands are much enlarged and indurated they cannot be felt. It is our plain duty to our
patients to allow no measure to be neglected if it will add to their chance for life.

Axillary glands which cannot be felt before the operation for mammary carcinoma are often found distinctly enlarged when the axilla is opened, and presenting the typical macro- and micro-scopical picture of malignancy. This is even more true of the glands under the jaw. It is more difficult to feel them. Only a few weeks ago I met with a case in point. A hearty man with a small carcinomatous ulcer of the lower lip was brought to me by his family physician. It was of only a few months' existence, and much doubt had been expressed as to the true diagnosis. Not the slightest trace of glandular enlargement could be detected. With only the half-hearted concurrence of the physician, a progressive man, and almost against the protest of the patient, who could not be brought to realize the gravity of the condition, I did a thorough operation, clearing the submaxillary spaces of fat and lymphatic glands. One gland was found as large as a small marble, and on microscopic examination it was found to be distinctly carcinomatous.

This case has strengthened my conviction that the submaxillary space should always be opened and emptied, for if there is ever a case which looks as if the simple time-honored V-shaped incision would be sufficient, the one just mentioned would match it in every way. Therefore I purpose to apply the rule in all cases.

Whether the submaxillary and sublingual salivary glands should be removed or not will depend upon the conditions found. If on exposure we find them macroscopically normal, and with no enlarged lymphatic glands in their vicinity, it will be prudent to allow them to remain. But if they do not seem absolutely normal, or if adjacent lymphatic glands or fat are diseased, they should be re-
lentlessly sacrificed. The lymphatic glands are so much more intimately connected with the lip than the salivary that the former are likely to be considerably diseased before the infection has extended to the latter.

Already a sufficient number of people have been deprived of their submaxillary and sublingual salivary glands to establish beyond cavil that their loss does not interfere with body nutrition. To avoid retrograde infection of the wound from the oral cavity it is important that the salivary ducts should, as far as possible, be carefully ligated.

In regard to the technique only a few words need be said. Most works on operative surgery give complete details. The chief point of importance is to make the incision continuous from the lip over the point of the chin, and to continue it laterally under the ramus of each jaw. This gives an opportunity to include in the extirpation not only the original carcinomatous lip border and the glands, but also the lymphatic vessels through which the infection must pass in order to reach the glands. I look upon the removal of this connecting tract as equally important to the removal of the tissues connecting the axillary glands with the breast in mammary cancer.

To summarize, in conclusion:

1. At the first hint of the possibility of cancer of the lip a thorough macro- and micro-scopical examination should be made.

2. If found to be carcinoma an immediate operation should be performed.

3. The submaxillary space should be cleared of all lymphatic glands and fat in every case, and, unless found absolutely normal, the salivary glands should also be sacrificed.
4. The subcutaneous connective tissue over the chin contains lymphatic vessels connecting lip and glands, and should always be extirpated.
Halstead recently said to one of his classes, "There have been but few operations upon the common duct." This statement from such a source indicates the necessity for reports even from the remoter corners of the earth, that, out of the fullness of accumulated experience, we may learn the true course. Recently Dr. Fenger, of Chicago, presented in the American Journal of Medical Sciences two valuable and exhaustive articles upon the Surgery of the Common Duct, elaborating fully the ball valve action of a floating stone in the duct. He reports six operations of his own, and gives a full history of the operation from its earliest performance to the date of his first case—covering in all some eighty cases.

Choledocholithotomy is a procedure which should not be undertaken for diagnostic purposes. I regret to say that the modern surgeon is sometimes too prone to make his incision first and his diagnosis afterwards—a procedure sometimes justifiable, but not to be universally adopted; in the case of the gall duct—never! It is imperative, therefore, to look with greatest care to the history of the individual cases and eliminate any possible source of error. Jaundice is a symptom of many disorders affecting directly or indirectly the hepatic mechanism, and the cases are divided by Osler into two great groups: those in which there is obstruction, either in the larger or smaller ducts, the hepatogenous form, and, "cases in which jaundice is due to suppression of the function of the liver cells, as in the wide-spread necrosis of acute yellow atrophy or to an excess of cromatogenous material.
as in malaria, pernicious anaemia, and in certain fevers in which the liver function cannot keep pace with the blood destruction, the haematogenous or non-obstructive jaundice." Murchison's classification of the causes of obstructive jaundice (followed by Osler) is: "first, foreign bodies within the ducts as gall stones and parasites; second, inflammatory tumefaction of the duodenum or of the lining of the duct; third, stricture or obliteration of the duct; fourth, tumors closing the orifice of the duct or growing in its interior; fifth, pressure on the duct from without; and in a sixth class those cases due to a lowering of the blood pressure in the liver, including in this class those cases due to mental shock or depressing emotions." Some care is necessary therefore before singling out the cases proper for operation. The most common form of the obstructive variety is usually due to a duodenal catarrh involving the opening of the duct into the duodenum; from the swollen mucosa of the gut a plug of mucus fills the diverticulum of Vater, completely obstructing the channel. A catarrhal condition of the duct itself may be present, but such a condition is preceded by a history of hepatic colic due to the passage of gall stones. This form of jaundice is usually afebrile, is unattended by pain, usually in healthy subjects and with no evidences of grave disease or much enlargement of the liver.

The symptoms of obstructive jaundice from acute yellow atrophy "Icterus Gravis"—or malignant jaundice—are not in the earlier stages easy to differentiate from those due to floating stone. Ushered in by a slight gastro-duodenal catarrh, this grave and almost, if not always, fatal malady, is usually mistaken for simple jaundice. "After a few days—sometimes two or three weeks—severe symptoms set in—headache, delirium, muscular tremblings, vomiting, hemorrhage into the skin or mucous surfaces,
rapidly increasing jaundice with the increase of head symptoms, deepening coma and death. This form is usually afebrile until near the close."—Osler. The stool is acholic, but one of the most important diagnostic signs is the presence of liucin and tyrosin in the urine. In the obstructive form of jaundice, due to floating stone in the duct, some of the above symptoms are reproduced, but so modified that a little caution will enable the observer to reach a correct conclusion. While the simple and malignant forms are usually afebrile, the case due to floating stone is practically never so. The symptoms are markedly like those of a remittent fever, attended by jaundice. The attacks are ushered in by a chill, rapid tinting of the skin, very marked disturbances of the stomach, vomiting of large quantities of bile, great nervousness and prostration, but very rarely pain of such severity as in hepatic colic, although the pain is located in the upper right abdominal region. Usually the greatest pain is in the stomach. During and preceding the paroxysm, which lasts usually from three to four days, the stools are acholic; in the intervals of the attacks (which occur somewhat irregularly), the bowel movements contain bile in diminished quantity, but immediately following the attack the quantity is increased for a day or two, due, no doubt, to movement of the stone from the point it has been obstructing in the course of the duct, permitting the over distended ducts to pour their contents into the bowel. The attacks just described recur at irregular intervals, and often cover a series of years, but in most instances a year or two is sufficient to force the victim to desperate chances for relief. The skin between the paroxysms rarely clears entirely, and each succeeding attack is followed by increased discoloration. There is rapid progressive emaciation, and recovery is a little less complete after each attack.
I have not mentioned hepatic colic in this connection for the reason that hepatic colic, unattended by jaundice, is due to the passage of a stone from the gall bladder through the cystic duct and does not concern us particularly in connection with common duct obstruction except in an historical relation. Many cases of duct obstruction are preceded by a history of hepatic colic, a transient jaundice, and apparent complete recovery, but there are many other cases which present the remittent features from the beginning. In these distinctly intermittent cases it is probable that the obstructing stone passes into the duodenum attended by the usual symptoms, or, if the stone be a small one, it may find temporary lodgment in some of the biliary passages with complete relief of all symptoms, or in cases with an enlargement of the cystic duct, where the obstructing stone may pass into the gall bladder, the same relief would follow. The rather common belief that all obstructing stones pass from the gall bladder into the common duct is erroneous, for we know that stones form in the hepatic branches and probably also in the hepatic and common ducts. No entirely satisfactory explanation has been offered for one feature of the cases of obstruction, choledochus stone in biliary passages, i.e., the almost universal atrophy of the gall bladder. In my case the explanation was satisfactory, for within the orifice of the cystic duct and protruding into the common duct was wedged a large concretion, the dilated duct permitting a free passage of bile beside it, while a floating stone in the common duct caused by its lodgment and release an intermittent jaundice. Grouping as briefly as possible the symptomatology which will lead us in the right direction, we will place icterus first, for with obstruction of the gall passage it must be present. Its character is intermittent and
usually attended by a sharp rise of temperature. "If the intervals are wide apart, months or years, it signifies that the obstructing stone has passed into the duodenum or found safe lodgment in the gall bladder" (a rare occurrence). Such attacks are distinctly intermittent.

If, however, the attacks assume a remittent type—with even slighter icterus recurring at short intervals—every one, two, or three weeks attended by colic of a less severe character, vomiting, great nervous prostration, and a sharp rise of temperature, we are safe in assuming that we have to deal with a case of floating choledochus stone. Patients with this group of symptoms emaciate rapidly; and the skin is never entirely clear, so rapidly does one attack succeed another. The same remittent features mark the focal passages. During the acute paroxysms the stools are practically completely acholic, while with the remission large quantities of bile are discharged per rectum, the ball valve action of the obstructing stone alternately damming it back and releasing it. Next, a physical examination [aided by the authors' stethoscope if necessary] will demonstrate that the gall bladder is not to be found.

Having decided that the case is one for operation, and the decision should be after mature consideration, how shall we proceed? Modern surgery is prone to ignore anatomy, to cut and tie what bleeds, but there are regions of the body which defy incautious approach. That of the gall duct is one of them. I have made the operation but once upon the living subject, but since that time I have made six careful dissections of the parts. In only one of these dissections have I found an arrangement of the parts corresponding to Dr. Fenger's description which, with reference to the disputed relation of the vena porta, is as follows:
"The vena porta commences behind the pancreas, runs as a trunk 18 mm. in diameter from left to right, slightly upwards, first behind the middle portion of the common duct. About its middle it emerges on the lower right border of the duct and runs from here upwards and to the right for a distance of from 3 to $3\frac{1}{2}$ cm., where it divides into its hepatic branches. On its way it passes from the posterior surface around the lower border up on to the anterior surface of the upper portion of the duct and covers the lower part of this, extending to or a little upon the cystic duct. The terminal portion of the vena porta is situated on the anterior surface of, and consequently covers, the hepatic duct and its branches. Its termination is about 10 cm. above and to the right of the end of the cystic duct; in dividing it gives off a main branch for the right lobe of the liver at an angle of 110° which passes downwards and to the right. This main branch is $1\frac{1}{2}$ cm. long and 10 to 12 mm. in diameter. From the place of division a branch for the quadrate lobe 2 cm. long and 7 mm. in diameter passes downwards, backwards, and a little to the left. At the left border and behind this branch is the bile duct for this territory of the liver, which is 3 mm. in diameter. Behind the bend and the upper border of the branch to the right lobe the upper border of the right branch of the hepatic duct comes into view. At the place where the trunk of the vena porta curves round from the lower and anterior surface of the common duct it takes up three other branches which run along this surface." This from so eminent and so careful an observer as Dr. Fenger should be constantly in the operator's mind—but my few dissections have, with one exception, corresponded with the text-books, which place the portal vein wholly behind the
common duct and the hepatic artery—which latter lies close to the duct on its left side.

Recalling our anatomy, we have a heavy organ lying behind the ribs and supported by numerous ligaments made by foldings of peritoneum. From the inferior surface of this organ passes another double fold springing from the transverse fissure and passing to the lesser curvature of the stomach. Its right margin is free, and between its layers lie the hepatic artery, the ductus communus choledochus and portal vein—all enclosed in Glissaus capsule of loose aneolar tissue. There are usually also a few lymphatics. The free border of this fold is the guide which carries us into the foramen of Winslow, which, being entered by the left index and middle finger, enables us to search through the thin covering of the duct for the obstruction—whether it be a choledochus stone or an abnormal growth. An operation upon the bile passages requires an ample incision, which should be in the right lateral region beginning at the costal margin and extending to or below the navel. A large number of pads will be required to protect the intestines and hold them out of the field, for the operator works in a deep wound before he has finished his task. At least three assistants are required, one to hold the liver, which must be partially withdrawn; one to care for the stomach and transverse colon, one to handle instruments, and a competent nurse, or better two. Upon opening the abdomen the extent of adhesions, judging from my own and reported cases, is startling—many of them, especially between the liver and great omentum, and the latter with the colon require ligation, as all jaundice cases bleed. Entrusting the liver to an assistant, and the stomach and colon to another, the operator searches for the free margin of the hepatico-duodenal ligament; having found which he enters it
as already described with the index and middle fingers of
the left hand. The anterior layer of lesser omentum is
carefully opened after the stone is located, but the edge
of the knife has no place here until the duct is exposed.
To recognize tissues here is not easy, and even when the
stone is seen shining through the duct wall it will be well
to verify the find by means of a fine needle. As slight
pressure will empty a vein, great care must be observed
that the tissue between you and the duct is not an import­
ant vein. The wound should now be packed with gauze
about the point selected for incision into the duct, as con­
siderable bile will most likely follow your incision. The
cut should be in the long axis and about three-fourths of
an inch in length, made over the stone which is held
firmly against the wall of the duct. A small scoop is the
best instrument to lift the stone from its position. Hav­
ing satisfied ourselves that the gall passages are clear, by
use of fingers and probe, the incision should be closed
by two rows of suture, one approximating row to the
mucosa, and a second row of Lembert sutures, fine silk or
kangaroo tendon being the best material. A rubber drain
down to the wound in the duct, and gauze drains about it
constitute the dressing. The rubber drain should be re­
moved on the fourth or fifth day and the wound lightly
packed. The abdomen is closed in the usual manner.

Other operations for the relief of obstruction of the
common duct have been made. Choledochoduodenostomy
is the most satisfactory of the methods, but while it
gives passage to the bile through the cystic duct it does
not remove the cause. There is much more to be said
upon this topic, but I have already taken too much of
your time, and I thank you for your kind indulgence.
THE BONE OF CONTENTION IN RAILWAY SURGERY.

BY ROBERT M'CONAUGHY, M.D., YORK.

The bone of contention in railway surgery is not a contention between railway companies and the general public as to whether there are any serious spinal injuries, but a contention as to what constitutes a serious injury.

The company naturally desires to protect its interests, and the injured party as naturally desires to receive the greatest possible remuneration for injuries sustained.

The surgeon is the innocent cause of a good deal of trouble which has arisen over this vexed question. His clinical experience has taught him there are wide differences of opinion as to the gravity of a particular case, and his reading teaches him there are as wide differences of opinion among authorities as to what amount of force is necessary to cause certain anatomical disturbances and pathological lesions.

The surgeon is honest, and these investigations are made for the purpose of getting at truth, but interested parties take advantage of this honest difference of opinion between medical men, and use it to serve their own selfish ends. The strife has become so fierce of late that surgeons have turned their batteries upon each other, charging bias of mind and prejudice in accordance with the financial interests at stake; in other words, whether they were surgeons of the railway company, or of the party injured. This unfortunate condition of affairs in a measure handicaps the free discussion and investigation necessary to arrive at the truth.

Mr. Erichsen and his little book are largely responsible
for the difficulties which have arisen, and yet his statements in regard to what is now called "Railway Spine" have provoked investigation and discussion, called out hospital records and private clinical experience, until we are better able to diagnose and classify these mysterious injuries. Concussion of the spine, as Erichsen describes it, is certainly a very rare accident. His definition is "a certain state of the spinal cord, occasioned by external violence, a state that is independent of, and usually, but not necessarily, uncomplicated by, any obvious lesion of the vertebral column, such as fracture or dislocation.

How many cases have you seen that will answer to that definition?

In the record of our Civil War, outside of fractures and dislocations, there are only seventy-five cases of spinal injury of all kinds, and of these only two more caused by railway accident.

The object of this paper is not to thoroughly discuss this subject, nor is it to defend either the railway company or the unfortunate individual who has been caught in the wreck, but to report two cases which have come under my own observation, and allow you to decide whether they are typical, genuine cases of concussion of the spine, or spinal sprain; either or neither.

Case I.—William S., Jr., traveling salesman, while getting off a Fremont, Elkhorn & Missouri Valley train, at the depot in York, January 16, 1892, slipped from a snow-covered car step and fell, striking the sacrum and the lower lumbar vertebra on the sharp edge of the step. There was intense pain following the accident, so that it was necessary to use chloroform in order to remove his clothing and make a thorough examination. There were no dislocations or fractures of the vertebral column, so far as could be determined, but bruised, discolored, and
swollen muscles, with inability to move without aid, and paralysis of lower extremities. The shock was accompanied with vomiting, headache, delirium, chills, and fever. Great difficulty was experienced in getting free action of the bowels, and the bladder could not be emptied except through the catheter. He soon began to slowly recover from the immediate effects of the injury, and in ten days was removed on a bed to his home in South Dakota. He then passed out of my immediate care, but I heard from him at intervals. For several months he remained partially paralyzed in the lower extremities, and was only able to move about with the aid of crutches. He had allowed what little accident insurance he carried to expire a short time before, and as he did not hold the railway company responsible for the accident, released it before he left York. The company paid all bills and carried him home on the private car of one of the officials. Whether the company ever gave him any further compensation I am unable to say. The Traveling Men's Association, of which he was a member, with their usual generosity, presented him with a large purse to relieve his immediate wants. This is the record of what appears to be a genuine case of "railway spine," though not occurring in a railway wreck.

Case II.—N. M. G., real estate and insurance agent, resident of York, was returning from Lincoln, December 26, 1895, when the passenger train ran into the caboose of a freight standing at the depot of the B. & M. R. R. at Seward. He had partially raised off the seat, and when the trains collided was thrown over the back of the seat in front, striking his right side and back and landing in the aisle. He walked out of the car with some assistance and was taken to the hotel by Dr. Shidler of York, who was at the depot for the purpose of taking the train home.
The B. & M. surgeon, Dr. Reynolds, was sent for, and together they made an immediate examination, but could find nothing but a little discoloration on right shoulder posteriorly, and slight bruise on right ankle. He wanted to be taken home that evening, but when he discovered the company was paying the bill he decided he would remain where he was. He returned home on the 27th, was seen by Dr. Shidler and his family physician, Dr. Farley, on the 28th, and on the 29th, by direction of Dr. T. P. Livingston, medical director of the road, I took charge of him as surgeon of the company.

I found pulse normal, temperature a little subnormal. He complained of tenderness, pain, stiffness of the muscles of right shoulder and scapula, and tenderness over dorsal and lumbar region of spine. I found two small scars on inner surface of right ankle. He complained of tenderness, and said he could not walk on that foot. On the 30th complained of severe pain in the region of the liver anteriorly; temperature little subnormal, pulse normal. Bowels acted with little assistance, and bladder emptied without catheter. He remained in bed until about January 8th, with practically no change in above conditions, when he began to sit up part of the time. From this time until the 1st of February, he was up and down; complained a good deal of pain in abdomen, back, and shoulders.

About this time he began to get out of doors, but still used cane and crutch. Discharged from treatment 29th of February, just two months after first seen by me. He did not fully recover; however, for another month or two. The objective symptoms did not at any time accord with the serious injuries he claimed to have received. Diagnosis was apparently easy and prognosis favorable, but circumstances were such as to make any treatment given
very unsatisfactory, and a speedy recovery almost impossible. He carried some $17,000 accident insurance, with a weekly indemnity of $100 or more, and it was very hard to persuade him that he would in all probability recover in a very short time. I did not care to take the entire responsibility of the case myself, and advised Dr. Livingston to come for a consultation. He did not come, but sent Dr. M. H. Everett, of Lincoln, who carefully examined him and made his report.

This was four or five weeks after the accident, and about this time the railroad company succeeded in getting a settlement of his claim.

Dr. A. R. Mitchell, of Lincoln, made an examination for the Woodmen Accident Company, in which he held a policy.

Twelve weeks after the accident occurred, a special medical examiner came on from New York to examine the case and effect a settlement. After looking him over he offered to pay him not only for the twelve weeks past, but two in advance, $700 in all, if he would only recover, or, if not willing to do that, release the Preferred Accident of New York of its indebtedness. He was willing to release, but not recover. About this same time a special adjuster came all the way from Hartford, Conn., in the interest of the Aetna, and after a personal interview and a history of the case from me, made him an offer of $500, which he accepted after some hesitation, and yet he did not fully recover. Drs. Shidler and Farley, of York, also made examinations in the interest of other companies, but recovery was not complete until all accident companies had come to a settlement, with perhaps one exception. At various times urine was examined which responded to the blood test, though at no time could any examiner get him to pass urine in his presence. He
either said he had just passed it or that it was impossible to void it in the presence of any one, even his wife.

You here have the record of a case of railroad spine or spinal sprain, or sprain of the muscles of the back and abdomen, which, to say the least, looks suspicious or very peculiar. That there was some injury I do not question, but that there was as serious lesions as claimed I very much doubt.

I believe that all the medical gentlemen who examined the case will agree that while the objective symptoms did not indicate any serious pathological conditions (unless the bloody urine was an exception), yet the subjective symptoms could not be successfully combated, and the burden of proof was on the defense—in other words the companies felt they could not successfully fight the claims, and paid rather than contest them. The claimant was a prominent citizen, and bore a good reputation.

It is true that on a former occasion he was thrown from a buggy one dark night and fractured his arm, and at another time lost his house and its contents by fire, and on both occasions was fully insured. These are accidents which might happen to anybody, yet the history of this case indicates that the injury was not nearly so serious as claimed, and that, had early compromise and settlement been effected, the spinal and other symptoms would all have disappeared long before they did. One train was at a stand-still and the other had slowed for the station stop, so that the shock of collision could not have caused all the apparent disturbances. Of course we recognize the fact that the nervous symptoms could be exaggerated and prolonged by repeatedly detailing them to enquiring friends, by the frequent examinations made for the various companies interested, by uncertainty as to the satisfactory settlement, and the fear of tedious
litigation before final settlement. After final settlement this case apparently recovered, and though there was doubtless some injury inflicted, yet it was not nearly so severe as claimed, and perhaps could not have been successfully combated in any court.

In the first case the party was more severely injured than he knew, and might have claimed a handsome remuneration, though he did not hold the company responsible. In the second case the company was willing to assume the responsibility of its employees, and adjust a claim which, to say the least, was not as Caesar's wife—"above suspicion."

It is this class of cases that gives the railway surgeon more trouble and anxiety than any other, not only because he desires to do justice to the company, but justice to the injured as well. The company desires fairness, and is willing to pay an equitable claim, and frequently, if left to his own judgment, the party injured is willing to accept a fair settlement. Too often, however, friends interfere, and a needy lawyer, who sees a good round fee in the distance, persuades him that really it is not just right for him to recover too rapidly. Then if he succeeds in getting the case into court, he finds a jury as ready and willing to assess the corporation as it is to assess the unfortunate doctor who finds himself caught in the dragnet of a suit for malpractice.
AN INTERESTING CASE IN SURGERY.

[From Drs. Martyn, Evans & Geer.]

BY C. D. EVANS, M.D., COLUMBUS.

Mrs. C. M., age forty-four, wife of a thrifty farmer. Examination revealed an irregular growth in the rectum the size of the average hen’s egg, implicating the sphincter ani. The first she knew of the enlargement was about one year ago, when she began to have painful defecation; the pain soon became almost constant, with occasional hemorrhage. The woman is well developed, height, five feet eight and a half inches; weight 176 pounds; appearance good. Family history: mother died eight months ago, age sixty-eight, of cancer of the rectum; cannot give cause of the death of the father. Sister, age fifty-two, died two years ago of cancer. Two brothers and two sisters living, all in rather poor health. Microscopical examination proved beyond a doubt the growth to be carcinoma, of the epithelial variety. If you will allow, we will call the growth in this case epithelioma. It is not necessary to enter into a discussion upon the pathology of cancerous growths, as it would lead us to an endless controversy. And we think it best, especially in this case, to make the unqualified diagnosis epithelioma.

We advised an operation. She, consulting friends of hers in New York, concluded to go and see a specialist. Upon being examined by three specialists in New York, their examination revealed the same facts in every respect as the examination here, and the operation advised. Being so far from home, she concluded to return home and have the operation. Colostomy was made March 23,
1896. The usual location was selected in the left iliac region. We might mention in the course of this operation the points we deem essential to observe.

First—Location of incision.
Second—The mode of closing the abdominal wound.
Third—The sewing of the gut to the abdominal wound.
Fourth—Opening the gut.

We will speak briefly of the second point only. The opening in the left iliac region was freely made, the gut secured, and two rows of catgut interrupted sutures were placed around that portion which was calculated to be the artificial anus. These sutures were about one fourth to one half inches apart, being the thickness between the peritoneum to the facia of the external oblique muscle. First to stitch the peritoneum to the gut all around the opening, then stitching the facia, and as much of the muscular tissue of the external oblique muscle as possible to the gut, using care that the same tension was made in both lines of sutures. The portion of gut in lower angle of wound drawn up a little further than that of the upper, but not above the cutaneous surface. Each end of the abdominal wound was secured beyond the prolapsed gut by silkworm gut sutures. The one nearest and on either side of the gut was left open, untied. On the fourth day after the abdominal incision, the gut was opened the whole course of the prolapsed portion, being about one and one half inches, and the loose sutures tightened. This in every way proved satisfactory, and no unfavorable results presented themselves, thus making the artificial anus. Examination of the rectum two weeks after the operation showed quite a decreased size in the rectal tumor and more regular to the touch, and in four weeks a thorough diagnosis of the extent involved was made; the mass was found to involve the whole of the
posterior and lateral sphincter muscles, no induration whatever beneath the vaginal floor. The whole of the sphincter and tumor mass was excised May 19, 1896. This was done by excising the whole indurated mass, drawing the lower part of the gut together, and covering the whole surface of the wound with the mucous surface of the vaginal wall, completely closing the anus. About two weeks before the last operation there was profuse hemorrhage, once of an alarming character; the origin of the hemorrhage could not be definitely located. She recovered sufficiently to admit of, in our judgment, a safe operation. From this time on she made an uninterrupted recovery. The anus is closed and absolutely healed, no induration and no soreness. The artificial anus is in a good and healthy condition, and now serves to supply the demands of nature as well as by the natural process. When the gut becomes loaded with fecal matter she has the sensation of defecation. The location of the gut in the operation to the muscular tissue produces a good sphincter and she has absolute control of the ejections. She is now well and fills the qualifications of housewife and attends to all the duties of such on a very large farm. We might mention her weight now is 208 pounds. The only parts of interest in this case to which we call attention are, first, the absolute control of the ejections from the bowels; second, the history of the case; third, the character of the disease; fourth, but not least, the recovery.
SOME OF THE ESSENTIALS OF SUCCESSFUL
SURGERY.

BY J. E. SUMMERS, JR., M.D., OMAHA.

Although it is desirable to surround our patients
about to be operated upon by every safeguard intended
to reduce to a minimum the dangers of wound infection,
yet it must be apparent that there is much stage setting
in the supposedly up-to-date surgery, the scenery and
costuming often veneering poor actors, too little drilled
in their art, too ambitious to become stars without first
learning to fill creditably the position of understudy.

Gerster has well said: "Unremitting attention to, and
a severe self-discipline in, always carrying out the meas­
ures of strict cleanliness known to be necessary to uni­
form success in the management of wounds, will gradu­
ally become, however irksome in the beginning, a mere
matter of accustomed routine. As the mind and senses
learn to exercise vigilance without special effort, the sur­
geon's results will become more and more gratifying.
His attention, freed from the severe strain, unavoida­
bly in acquiring command of the details of a difficult
business, will concentrate itself upon higher objects,
and the smooth routine resulting from long and severe
training will not divert attention from the finer detail
of his special work." It is very easy sailing for a
hospital surgeon to do his work, surrounded by a corps of
keen, trained assistants, both men and women, eager to
aid, having at command all the essentials and many
unessentials of the well equipped operating room. There
is little anxiety so far as infection from his own made
wounds is concerned, but it is a different affair for the
same surgeon when called upon to carry on his art under the same circumstances that is the routine of the country practitioner—maybe in the well-ordered home of the thrifty villager or farmer, oftener, it seems, amidst surroundings of poverty and perhaps squalor. Experience has demonstrated to me that there is no reason why excellent results cannot be obtained under any of these circumstances. The same brains and fingers which do successful hospital surgery can likewise devise means and execute methods under the domestic roof which will promise to the patient quite as much hope as to the outcome of a surgical procedure as could be expected amidst the most pretentious hospital furnishings, provided thought and personal exertion are given to the particular case that the justification of a proposed operative interference ought to demand. Every hospital surgeon becomes so spoiled after a while by being accustomed to having all the drudgery and detail of preparation for an operation done by his assistants and nurses, that it is irksome to work outside the hospital, as few operations are done by him in the homes of the sick, as either the emergency or absolute refusal upon the part of patient or family preclude removal to either private or public hospital. I have long been impressed by the conviction that the sick do better at home, even if an humble one, there surrounded by familiar faces and scenes, all that goes to make "no place like home," if the necessities of life are supplied and an experienced up-to-date educated mind is in authority, directing the execution of the laws of hygiene, extemporizing when necessary in order to successfully apply practically its principles.

There are only two emergencies in surgical practice which, because of their urgency, demand immediate action without consideration of the laws of asepsis and anti-
sepsis. The first is tracheotomy, when suffocation is imminent, and any delay, even of a few seconds, means death; the second is the arrest of hemorrhage under the same circumstances. To illustrate: a young man suffering from facial erysipelas developed symptoms of a spread of the inflammatory area into the air passages. Every known expedient had been exhausted upon the part of the physicians in charge to control and reduce the inflammatory swelling, threatening oedema of the glottis, and, with a false sense of the patient's security, they had gone home for a much needed rest. A hastened summons in the early morning hours brought a surgeon to the bedside of the patient, apparently dead from suffocation. A rapid tracheotomy with the simplest of instruments, the surgeon having had time only to remove his hat and gloves, "brought back to life" an otherwise immediately fatal case.

A young man standing in front of a building was struck in the neck by a piece of falling window glass, causing a wound from which the blood spurted. The victim started to run towards the office of a physician about half a block distant. A surgeon who happened to see the accident ran towards him, and, seizing the then almost fatally wounded man, pressed his thumbs into the wound, controlling the bleeding until a colleague arrived, who, with a sidewalk for an operating table, and pocket case instruments as his armamentarium, successfully ligated the internal carotid artery and internal jugular vein, the patient recovering without mishap.

It is quite possible for the general practitioner to carry out the recommendations of those who formulate the rules by which aseptic surgery must be practiced. There are very few towns of 5,000 or less inhabitants where trained nurses are at work, because the inhabitants have not been
educated to pay $20 to $25 per week for their services; neither have the farmers; therefore, the practitioner outside of the larger cities, and often in the largest, must rely upon his colleagues, friends of the patient, and members of their households to aid in all preparations for a proposed operation and in the execution of the procedure itself. In order to do this satisfactorily, it is essential to be simple in one's own acts, in giving directions to those about to aid, impressing one main idea—_cleanliness_. This is to be obtained, first, by the operator himself or a trained colleague rendering everything, such as instruments, ligatures, and sewing material, gauze mops, sponges, dressings, and towels, sterile, placing them ready for use and protected from contamination by their immediate surroundings, and, having done this, to render the field of operation sterile. If this has been done, a failure to carry out an aseptic operation rests chiefly with the operator, and not his assistants, and a conscientious endeavor upon the part of the surgeon to carry out in principle in the technique of his operation that which he has begun in his preparation will sooner or later meet with the best of success obtainable in any hospital. If called upon at home or from a distance to perform a surgical operation, the best lighted room is selected in which to operate; draperies are removed as well as all light furniture. A visit to the kitchen and other rooms will result in the finding of an operating table, either long enough for the case in hand, or else by placing a small table at either end to support the head and feet, will answer all purposes. In lieu of the small table, a box rested upon a chair does very well, or even, in most cases, a table sufficiently long to support the head, trunk, and lower extremities as far as the flexure of the knees will do. A short kitchen table can usually be lengthened as described, so
as to answer the purposes of an operating table better than can the usual extension dining room table, which is too wide for efficient aid from an assistant, when, perhaps, it may be most needed. When the Trendelenburg posture is required and the surgeon has not at hand a Krug frame, or some similar contrivance, the difficulty is easily overcome by tightly pinning a folded sheet or blanket around the four legs of a stiff-backed chair, the sheet or blanket being so fastened that it covers well the bottoms of the chair legs. When the chair is placed upon the table in the position of a "bed-rest" it makes a frame upon which, with the legs hanging over the pinned sheet or blanket, a Trendelenburg position of from 40° to 45° is obtained. I have proven the practicability of this device on several occasions, one of the most urgent being a desperate case of ruptured tubal pregnancy, and especially is the Trendelenburg position useful in this serious accident as it tends to minimize the bleeding, and at the same time stimulates the cardiac and respiratory centers; it allows of more accurate and rapid manipulation of the pelvic contents.

One table is selected upon which to place instruments; another for dressings and sponging material. Most any piece of furniture having a flat top will do quite as well as a table for these purposes. Chairs should be placed convenient to both the operator and his assistant, upon which may be placed bowls to contain boiled water, or antiseptic solutions in which their hands may be dipped from time to time. The anaesthetizer should receive the consideration of a chair.

In the houses of the very poor, one or two chairs, a box, and even the floor may be made to answer all necessities. My own practice for some time is to have my whole operating outfit for a proposed operation sterilized at home before leaving for the field of operation. My instruments
are boiled, wiped dry with a sterilized towel, and placed in a sterilized canvass roll. In this roll are placed my needles, silk, and silkworm gut wrapped in a piece of sterile gauze. The roll is then pinned up in sterilized towels. Drainage tubes (glass and rubber), nail brushes, towels, operating gowns (always three or four for use of myself and assistants), bandages, gauze and cotton, after sterilization in a Boerkman sterilizer, are similarly wrapped up. Instrument trays are likewise sterilized and protected. A cheap canvas "telescope" of medium size will hold the necessities for any surgical operation. I carry everything in one of them, except my anaesthetizing outfit, jar of iodoform gauze, sterile collodion, iodoform and boric acid in dusting bottles, turpentine and alcohol, soap mixture, antiseptic silk and catgut. These are put in my surgeon's bag. Silk may be made and preserved sterile by boiling in water for one hour, and then placed in a 5 per cent carbolic acid solution, made by adding the acid to freshly boiled water. Absolutely sterile catgut may be made by dry heat of very high temperature and can be procured of the supply houses. I have bought with entire satisfaction of Truax, Green & Co., Chicago. At present, the use of formalin in the sterilization of catgut is the latest and perhaps the best method, but as the method we have employed for several years in the Clarkson hospital has given uniformly the results wished for, I propose to cling to it until undeceived. It is as follows: A good article of catgut of different sizes is wound and twisted into loose rings about one-half to one inch in diameter; these are placed in bi-chloride ether, for twenty-four hours, removed and placed in bi-chloride alcohol for twenty-four hours. The gut is then placed into alcohol, and the bottle, a wide-mouthed one, lightly stopped with sterile cotton, is placed in a vessel of
boiling water and boiled for fifteen minutes. This boiling is repeated on three successive days, adding sufficient alcohol when too much evaporates. After the third boiling, the gut is placed in absolute alcohol and is ready for use. Of course, in its preparation and whenever any is required for use it must be removed from the bottles with sterilized forceps.

It is best, I believe, to chromicise all catgut, as it adds to its strength and resistance to rapid absorption. We use this method: after the gut is removed from the bi-chloride alcohol one in 1000, it is placed into this solution: chromic acid 1 part, carbolic acid 200 parts, sterile water 2,000 parts. After twenty-four hours the gut is removed and placed in absolute alcohol. It is a mistake to add bi-chloride of mercury to the preserving absolute alcohol, as it renders the gut too brittle.

Since I have in a great measure given up using catgut, silk, and gauzes prepared by the supply houses, my results have been better and my expenses in that direction materially lessened, and I would therefore urge every surgeon to prepare his own material. However, for the ordinary minor surgery of the office, factory, and private family, I believe it is best to keep at hand moist antiseptic gauzes from responsible houses. These gauzes are more convenient, safe, and economical if bought in one yard packages. The continued re-opening of the five yard package leads to danger of infection; besides they are bulky. Very little gauze or cotton is needed in any freshly made wound unless oozing is anticipated or drainage provided for. A light gauze or cotton collodion dressing is preferable. For the same kind of work I can recommend the sewing material prepared in sealed glass tubes and furnished by the supply houses. Only the grossest carelessness could contaminate either the needles,
silk, catgut or silkworm gut, as they are absolutely aseptic when the tube is broken. Silk should, when possible, be boiled immediately before using. Gauze can be bought from the dry goods' houses at three and a-half cents per yard. To prepare for use, boil for fifteen minutes in a solution of carb. of soda one dr. to one quart of water, and then for one-half hour in clear water; cut into sized pieces desired, and put in Arnold's or Boerkmann's sterilizer one hour before using. It might be more desirable in transporting gauze after sterilization to put it into some sterilized glass vessel or jar.

Iodoform gauze may be thus prepared:

- Salt solution soapsuds...................\(\ldots\)\(\frac{3}{5}\)xj
- Iodoform powder..........................\(\ldots\)\(\frac{5}{6}\)x
- Sterilized gauze..........................yds. 3

Mix thoroughly. Rub the solution well into the meshes, and when thoroughly impregnated roll loosely and keep in colored glass jars.

We prepare sterile collodion in this way:

- Ether (squibs).................
- Alcohol (absolute) \(\frac{\text{a}}{\text{a}}\)..........................\(\frac{3}{5}\) V\(\text{V}\)ss

To this add m. \(\text{XVI}\) of a solution made by dissolving gr. 15 of bi-chloride of mercury crystals in absolute alcohol \(\frac{3}{5}\) \(\text{X}1\) Then add “Anthony's snowy cotton” sufficient to make a syrup.

It is presumed that every surgeon owns some kind of sterilizer, the simplest, best, and cheapest being the Boerkman or Arnold. The instruments, silk and silkworm gut, together with towels, aprons, gauze for sponging and dressings, may be sterilized at the patient's home during the hour preceding the operation, while the room is being gotten ready, tables, chairs, boxes, etc., placed in position and well scrubbed with soap and water, and then washed off with a \(\frac{1}{10}\) bi-chloride solution. All
the clean sheets and towels of the establishment, or as many as may possibly be needed, are brought into the operating room for future use as required. If time has permitted, these should have been freshly washed and ironed. The surgeon and assistants can now "scrub up," i.e., use liberal quantities of soft soap and warm sterilized water, apply the nail brush vigorously and the nail cleaner carefully. The arms should be well scrubbed to the elbows; the hands and arms should now be well washed with warm sterilized water and then again with a 10% bi-chloride solution. If this procedure is carried out conscientiously and not with a "lick and a promise," it is all that is necessary. My own practice is somewhat different; instead of soft soap, I use a mixture of three parts soft soap, three parts corn meal, and one part black mustard; and besides the other details I usually, last of all, have alcohol poured onto my hands. Sometimes I use soft soap and turpentine with liberal quantities of ordinary warm water, a stiff nail brush, and a nail cleaner. These two methods can render the hands proof against infecting any wound. The wound area or proposed wound area is prepared in a similar fashion.

No one should attempt to practice surgery who does not know how to make his patient clean, make himself clean, and keep both clean; anything short of this is wrong. It makes no difference how the object is obtained, whether the teachings of Tait, Price, von Bergmann, or Gerster are followed. The surgeon who has first learned the principles and niceties of modern aseptic and antiseptic surgery can practice successfully with very few trimmings. No one should ever do surgery of a type likely to jeopardize human life until he or she has learned how to exercise self control, to learn the importance of details. As in morals so in surgery; after proper
teaching it is "easier to do right than wrong. I have no patience with the semi-educated, semi-dexterous, semi-conscientious medical man, who for vainglory, hypocrisy, and the mighty dollar, sacrifice human life. I have the greatest respect for the honest, ambitious, hard worker, whose brains and skill are as capable of development in the country as in the city, and I would urge every such man having a taste for surgery to learn to be ever watchful of small things. This is a period of education; the day of the born physician and surgeon is past.
WHAT OF THE NORMAL SALT SOLUTION IN SURGERY AND ELSEWHERE?

BY O. GROT HAN, M.D., ST. PAUL.

I am often at a loss to know why, for a brief period of time, new, or perhaps formerly well known methods and remedies spring into all-absorbing topics in the medical press and society proceedings, and then, after a meteoric-like career, vanish as they came. Is it because their values have been over-estimated on the spur of the moment, or is it that the methods advocated many times are cumbersome and means the expenditure of too much time and trouble to the busy practitioner?

The subject I wish to bring before you to-day can scarcely be classed under either of these heads—certainly not with the former. There is yet another class of remedies or procedures that sometimes vanishes from the armamentarium of the many, and is retained only by a fortunate few, and this because the remedies are so simple, or those using them have become so accustomed to their efficacy, as to lose sight of the fact that many of their fellow-practitioners are almost wholly unacquainted with the benefits thus derived. This, I think, can be truly said of the normal salt solution.

From what I can gather in contact with more or less prominent physicians, I can but come to the conclusion that its uses and indication are but vaguely understood and appreciated by physicians in general practice. The other day, after an operation for a ruptured extra-uterine pregnancy, I decided that it was necessary to employ hypodermoclisis. One of the assistants, an up-to-date young practitioner, remarked that we had better discon-
continue the procedure, as he had fear of diluting the blood too much. At the time not more than half a pint had been injected.

About a year ago, nearly every medical journal was filled by setting forth the advantages to be derived from the use of the saline solution, but now for months nothing has been said in this direction. When I chose this subject, I did so with the knowledge that it is to many of you a hackneyed one, but even at the risk of being tedious, I deem it of sufficient importance to claim your attention for a few moments.

As we are treating of a subject that is following immediately in the footsteps of blood transfusion, and that now has wholly displaced its precursor, it is but fair to say that Lower, of Oxford, who probably first performed the operation with success, in 1765, was destined to be the father of one of the most direct, if not the most direct, life-saving measure at our disposal.

The German surgeons, Kaufmann and Purmann, claim to have cured a leper in 1755, by the repeated injection of lamb's blood. About the same time, Schmidt, of Damrech, injected medicines as well as blood with a certain degree of success, in exhausting diseases. However, no particular advancement was made along this line, until Prof. Dastre in 1889 desanguinated animals, and replaced the blood by normal salt solution. This authority found that even when an animal is bled dry, and the blood replaced by this liquid, there is no respiratory embarrassment for the want of red blood corpuscles. Therefore, it looks as if the liquid part of the blood is the main stimulus to the life preserving centers—in other words, it is life itself. A short time after this, Prof. Hayem, of the "Faculty of Medicine" and Sahli, of Berne, found that this injection was, in typhoid fever and uremia, highly
satisfactory. A lull in the employment of this method then supervened, so that until about a year ago but little was heard of it; then three important communications followed each other in succession. The first of these, by Dr. Duret, another by Dr. Lejars, and a third by Dr. Tuffier. This, together with recent chemical reports, have made this subject a most interesting one.

The more practical and lasting improvements in our treatment of disease usually consists in the perfection of older well recognized therapeutics and a substitution of a normal salt solution for that of blood transfusion is not an exception to this rule. The latter is of very ancient origin, and dates far back into the middle ages, while the former is very modern, considering its usefulness in its entirety. The different forms of blood transfusion—means that were well established a few years ago, and were quite popular in theory at least—have to-day fallen into almost, if not entire, disuse. That this was a life-saving measure in its time there exists abundant evidence to prove, but since Little, Sands, Jennings, and others began the use of their complex saline solutions, the employment of blood, immediate or defibrinated, has been viewed with more and more disfavor. Now Little's and Jenning's solution have given way to the normal salt solution, that is, a teaspoonful or a dram, of common salt to a pint of boiled distilled water, cooled in ordinary cases to 103° or 104° F. To-day the use of this apparently simple procedure in the hands of both physicians and surgeons should be ranked as the most important direct life-saving means at our command, and this not only in emergencies but in applied therapeutics as well. Therefore a glance at the usual methods of application, and the most ready and practical means to this end, cannot come amiss.
Operative Procedure.—There are four usual methods of employing the saline solution, viz.: 1, Intracolonic; 2, Intercellular; 3, Intraperitoneal; and, 4, Intravenous. The first, or intracolonic injection, can scarcely be said to come under this head, but owing to its results, which in many instances have proven so eminently satisfactory, it must be accorded a fitting recognition. The mode of application by the use of a long rectal or simple nasal tube is too well known to need description.

As to the second, or intracellular injection, it is the simplest and best method in ordinary cases and for inexperienced operators. As to the apparatuses for this purpose, there are many complex and expensive ones. We have Aveling's transfusion apparatus, Dieulafoy's aspirator, and Colin's transfusion apparatus, and a number of others, all of which are objectionable for many reasons. When a small amount is required it has been our custom to use an antitoxine syringe, by simply detaching the syringe from the needle, refilling and attaching again. This is especially applicable in children approaching fatal collapse in cholera infantum. Where large amounts are required, this process becomes tedious, and the use of a glass funnel with a rubber tube attached five or six feet long, or a fountain syringe is preferable. An Allen pump or a Morton's transfusion apparatus may be used. The hydraulic pressure is, as a rule, sufficient for intercellular injection, when the container is elevated from three to five feet above the patient. Mr. Morse, of Norwich, to whom belongs the credit of this method, prefers the cellular tissue of the axilla, as the best place for injection, though the abdomen or thigh may be used. A small or medium aspirating needle is attached to the tube of the apparatus and passed deep enough to be free in the cellular tissue. One or two pints, or more, can be used at one injection.
into the axilla, and two quarts into the abdominal wall, and complete absorption usually takes place within two hours. This method, in case of severe hemorrhage should be associated with colonic injection.

The *Lancet* for June, 1896 (*New Jersey Medical Journal*), contains a description of a case by Mr. Arthur Dodd, who was called to a patient, a multipara, and found she had lost an enormous amount of blood, blanched, pulseless, and apparently moribund. Though Mr. Dodd considered the case hopeless, he injected a pint of normal salt solution in the cellular tissue of each axilla. This was accomplished by an Abutnot Lanes' apparatus, the needle being introduced deep enough to feel the point moving freely in the cellular tissue. After a very few minutes patient showed signs of rallying, and in two hours was apparently out of danger. The absorption was exceedingly rapid, so that after two hours there existed but very little swelling.

The third method, or intraperitoneal, has but few advantages in most cases over the one just described, except in cholera and allied diseases. The instruments required are both simple and easily obtained. A glass funnel, a six-foot rubber tube, and a small or medium aspirating needle are all that are required. Again, an Allen pump or a douche bag are equally efficacious. We may turn on the flow, insert needle in the region of the umbilicus in such a manner as to avoid puncturing the intestines; that is, slanting to the abdominal wall, and elevating the container to about two feet. I will say for the benefit of the inexperienced that the dangers of puncturing the intestines is not so great as one might be led to suppose.

The fourth, or intravenous injection, that is, transfusion proper, differs not at all from the ordinary blood
transfusion of the past, and as the instruments are the same as used in the peritoneal injection, they scarcely merit further description. Usually one needs only to insert a large hypodermic or small aspirating needle into the lumen of the vein while the flow is running. The desired vein should first be made prominent, either by the parts being held dependent for a few moments, or the application of moderately tight proximal compression, or both. There are cases, however, where it becomes necessary, from excessive hemorrhage or otherwise, to dissect out the vessel. This should be accomplished by cutting through the overlaying skin with great care. When this has been done, the vein will be seen as a blue line, which may, after a few scratches of the scalpel, be elevated and raised on its handle. The next thing will be the placing of a ligature under the vein in such a manner that when the canula is placed in its lumen—which should not extend over half an inch—it may be tied. As the wall of a vein is very easily lacerated, extreme care should be exercised both in its opening, and in the insertion of the canula.

According to Dr. Morton (Therapeutic Gazette, August, 1896), the temperature at which the artificial serum should be received into the circulation is about 100°F. Therefore the fluid in the reservoir should be about 104 or 105. The same author also insists that in extremely bad cases of hemorrhage an insufficient amount is generally used, as well as the measure not being repeated as early as it should be. He says that many resort to the use of only a pint of the artificial serum and observe only temporary benefit. A quart may be said to be the minimum quantity in an adult, while some use as high as three quarts. In extremely bad cases the canula may be left in the vein, and maintained in place of a bandage, for repeated injection.
Indications—When we include here the most modern measure in all the range of therapeutics, that is, blood-washing, the usage of artificial serum is so extensive and varied that I must ask your pardon for the shortcomings of the following incomplete summary.

Hypodermoclysis, or the intracellular method, may be said in general to be efficacious in the milder forms of shock and hemorrhage, also in exhausting diseases and in less severe uremia and toxemia. It should always be combined with the other restorative measures as indicated, and in case of hemorrhage with colonic injection. The absorption from the intestine after hemorrhage is surprisingly rapid.

Where we have had profuse bleeding, profound shock or toxemia, from any cause whatever, intravenous injection should be resorted to. In toxemia or uremia approaching coma, this method should be preceded by the extraction of from one to two pints of blood. In children blood should seldom if ever be withdrawn prior to transfusion. Children bear the loss of blood badly, even in a very small quantity. In oft repeated smaller hemorrhages, long continued, transfusion is of but little value.

The following special indications for the use of artificial serum may be enumerated: 1, Hemorrhage; 2, Uremia, and uremic coma; 3, Operative shock; 4, Septicemia, as septic peritonitis; 5, Sapraemia, as for instance after absorption from the digestive tract, of toxic ptomaines and tox-albumins; 6, After ingestion of narcotic or other poisons; 7, In exhausting diseases, as cholera-infantum, typhoid fever, diphtheria, pneumonia, syphilis, chronic pernicious anemia, prolonged suppuration, scurvy, purpura-hemorrhagica, tetanus, etc.; 8, Its use after thoraco-centesis, according to the Lewaschew method. That is, the substitution by normal salt solu-
tion for the pleuritic effusion. The effusion is gradually aspirated, and replaced by the physiological salt solution. Lewaschew, after its use in fifty-two cases, all followed by marked relief and prompt recovery, recommends it in the highest terms. It prevents the collapse of the organ into the empty pleura, and by gradual absorption, exerts a general tonic and local antiseptic effect.

In conclusion, allow me a word with respect to personal observation of this method, as employed in an apparently moribund case of gangrenous appendicitis with perforation, and in a case of extirpation of the scapula and surrounding parts for a large ostio-sarcoma.

Mrs. S., age about thirty-eight, was seen June 23. Temperature 102, pulse 130, moderate tympanitis, swelling about McBurney's point about the size of a man's fist. Operation proposed and refused. June 24, found swelling almost gone, abdomen more tympanitic, temperature 100°, pulse 145; extremities cold, and patient bathed in a clammy perspiration. Operation performed, the appendix was found sloughed, and a bowel perforation the size of a goose quill. Abdominal cavity contained an exceedingly foul mixture of liquid feces and pus. After rapid repair of the bowel, the abdomen was flushed with a large amount of sterilized water, and about a gallon of the physiological solution was left in the cavity, as warm as the operator judged it safe to employ. Condition an hour after, rather better than before operation.

Case I.—On June 27, the temperature rose to 104½°, pulse too rapid to be counted. We found an old hernial sac, distended with pus, was the cause of this highly unfavorable phenomenon. After the injection into each axilla of a pint and a half sterilized water, containing one and a half drams of salt, the patient improved strikingly, so that in two hours the operation for the hernia was done
without general anesthesia. Before the operation was performed, free diuresis had taken place, the pulse rate improved, and temperature had fallen over one degree. It is our opinion that had the warm solution not been left in the abdominal cavity at time of first operation, the patient would have then succumbed to shock and septicemia. Likewise, had the intercellular injection been omitted on the fourth day, she would never have rallied from the septic hyperpyrexia and additional shock of the secondary operation.

CASE II.—Mr. C. was operated upon May 2 for an ostio-sarcoma of the scapula the size of a child’s head. The tumor was of extremely rapid growth and very vascular, its history extending only over a period of three months. After the operation, and in spite of all precaution, the patient, being in a state of much impaired health, showed unmistakable signs of approaching dissolution. The loss of blood did not seem to me to be very great, yet I verily believe that, had not the artificial circulatory media been timely supplied, the operation would have been disastrous.

Now, whatever method is employed, or whatever instruments used, every aseptic precaution must be followed to the extreme. Field of operation, instruments, solution, and operator’s hands must be above suspicion. The after-treatment is simply the sealing of the puncture with iod-oform collodion.

While hemorrhage is as much to be avoided as ever, still when it does occur it carries not with it its former horror, and does not convey the feeling of helplessness which it did in the past.
INDICATIONS FOR, AND TECHNIQUE OF, OPERATING IN APPENDICITIS.

BY H. P. HAMILTON, M.D., OMAHA.

In taking up the subject proper of this paper, I wish to make some remarks on the indication justifying operation. While this subject has been discussed over and over again, there still appears to be a great difference of opinion as to what cases require operation, and the exact time same should be performed when decided upon. There are some who make it a rule to operate on every case as soon as a diagnosis of appendicitis is reasonably sure, without regard to the form of the disease or the stage of its existence. Others again believe and teach that there are but few cases that should be operated on during the acute attack, but that it should be done in the intervals between, thereby avoiding the great danger attending the operation. There are still others who maintain that only a certain per cent of the cases should be operated on during the acute attack, and these cases can be ascertained only by close observation and by eliciting certain signs and symptoms from each individual and separate case. This class also believes that where operation becomes necessary there are certain times when—in the language of one—"it is too late to operate soon, and too soon to operate late." This, of course, has reference to cases where an abscess is forming around the appendix and lymph is being thrown out to wall off the abscess fluid from the remaining abdominal cavity. Where the operation is done soon it should be before pus has formed around the appendix. Where the operation is delayed, it should be after the abscess wall is suffi-
ciently strong to avoid rupturing into the peritoneal cavity, thereby infecting all contents therein. There are expert operators and diagnosticians whose success in treatment on either of these plans that they have adopted cannot be questioned, the mortality of each being reduced to a minimum.

The question that is of paramount interest to us, however, as physicians and surgeons, is what course we as individuals should pursue. Shall we operate on all cases when reasonably certain that appendicitis exists? Shall we operate only on those cases where the symptoms show conclusively that death is inevitable unless an operation is performed? Or shall we select our operative cases from the character of the attack, the history of its course, and the physical signs and symptoms which we are able to elicit in each particular case? It seems to me that these questions can only be answered according as our individual experience and training fit us for doing that kind of work, and the accessibility we have to our patients. If our past training and experience have been such as to render us perfectly familiar with the technique of dealing intelligently with any and all complications that may be found in the abdominal cavity, then the urgency of the case need not be so great to justify us in operating as it would be if our past experience has been more limited. Further, if we have a given case under our immediate supervision, where operative procedure can be at once instigated, should the exigency of the case demand it, then again we can wait until a more auspicious time than we otherwise could were we two or three hours from our patients. Still further, it has been found that there are certain signs and symptoms that we have formerly relied upon more or less, that have been demonstrated pretty conclusively that they are not at all times to be
trusted, viz., pain, temperature, and circulation. If we have a certain toxic condition of the nerves supplying the involved structure, pain may be almost, if not entirely, absent, and the general circulation and temperature may also be changed according to the character of the organism producing the lesion. Our knowledge as yet along these lines is not sufficiently definite to arrive at positive conclusions, but the future offers hope and expectation. I have but little doubt that 99 per cent of the acute cases would recover from the operation could we operate within the first twelve hours after the beginning of the attack, but seeing our cases that early is an exception which we cannot remedy. In my opinion, we should, as cautious surgeons and physicians, usually follow the teachings and example of conservatism as is most ably set forth by such men as McBerney, Senn, Treves, Bull, Wear, Keen, Halstead, Stimson, and others, whose ability needs no comment here. We should also, as before stated, weigh our ability for performing such operations, and remember that conservatism on our part requires the closest observation and differentiation. We must also remember that symptoms, as pain, high temperature, and accelerated pulse, are sometimes almost, if not entirely, absent in the severest form of the disease, but a great change in either, or the detection of a tumor, points definitely to danger, and the patient should be subjected to operation.

Without touching upon the pathology of the appendix I will take it for granted that we all agree on the following conditions: First, those in which the operation is begun by making a free opening in the peritoneal cavity; and, second, those in which it is limited to the evacuation of an abscess, without such exposure of the general peritoneum. The first includes all cases that are done while in a quiescent state after recurrent attacks, those done in an
early stage of a progressive attack with or without abscess, those accompanied by general peritonitis due to perforation or gangrene, and those in which an abscess is formed but not adherent to the parietal peritoneum. The second class includes a group of cases where it is possible to evacuate the abscess cavity without entering the free abdomen either by direct incision into the abscess, by dissecting around the floor of the abscess near the iliac foci or by puncturing its cavity through the rectum. The last mentioned is seldom done at the present time, but consists in dilating the rectum under anesthesia and passing in the index finger to the fluctuating mass, carefully passing the knife along the finger to its tip, and incising it for about three-fourths of an inch, after which a drainage tube is passed well into the abscess cavity, and left in situ for a few days. This procedure I have seldom seen performed for appendicitis, but it is reported as being very satisfactory by persons who have frequently performed it in that way.

If it is decided to puncture the abscess from behind, the incision is made about four or five inches perpendicular to a line drawn from the umbilicus to the iliac spine, and one inch internal to the spine, one-third of its length being above, the remaining below said line. This incision is carried down to the peritoneum along its entire extent, after which the peritoneum is stripped up clear back to the point where the abscess is found, which is generally under the appendix. When the abscess is found, it is incised and drained. This operation has given some very brilliant results, but the technique is seldom resorted to at the present time, owing to the difficulty of making a positive diagnosis, and the feeling entertained by most surgeons that cutting in the dark is always dangerous, and the comparative harmless on entering the abdominal cavity where strict asepsis is observed.
The third and last division of this class of cases is where the abscess wall is adherent to the parietal peritoneum, and we wish to incise same and evacuate its contents without disturbing the free peritoneal cavity. The technique of this procedure differs so little from that in which the free peritoneal cavity is entered, you will pardon me for describing same while dealing with that particular class.

Now as to the incision in the other class of cases, viz., where we expect to enter the free peritoneal cavity. I shall confine myself to two points, the outer border of the rectus abdominis or immediately over the point of dullness, if dullness exists. If no dullness exists over the part known as McBerney's point, which is situated about two inches internal to the iliac spine, and on a line drawn from said spine to the umbilicus, either incision should be made parallel to the muscular fibers immediately beneath the incision, which would be the rectus in the first named, and the external oblique in the second. The first, which I consider to be suited only to the recurrent form, is made over the outer border of the rectus, and should be about four and a half inches long, extending a little above the umbilicus and about three quarters of an inch internal to the muscle. When the muscle is reached, the aponeurosis should be raised and the muscle loosened and drawn inward toward the median line sufficiently to enable us to incise the remaining structures immediately beneath the outer incision. This procedure is indicated only in those cases where the appendix alone is involved and drainage would not be found necessary. The advantage of this incision is the protection and strength given by the rectus muscle, which is not incised, but which overlaps the incision when the different structures are closed separately, thereby preventing any tendency to the
formation of hernia and at the same time affording a large opening through which we can work while dealing with the appendix. If we desire to make our incision over the indurated mass which usually occurs about one and a half to two inches internal to the iliac spine, it should be in the direction of, or parallel to, the fibers of the external oblique muscle. This incision is carried down to the external oblique for its whole extent, and its borders drawn aside; then we carefully separate the fibers of the muscle with as little cutting as possible. This can be done either with a knife or by the use of scissors introduced between the fibers, and separated, thereby separating the muscle fibers without using the cutting edge of the scissors.

After this has been accomplished, and the muscle drawn aside by retractors, we can either complete the incision down to the peritoneum by incising the internal oblique and transversalis in the line of the division of the external oblique fibers, or we may separate them as in the case of the external oblique. Should the latter be preferred, two sets of retractors are necessary while dealing with the transversalis, and an extra assistant also becomes necessary. The length of this incision varies from one and a half to four inches; some do the greater number of their cases through an inch and a half incision, but most surgeons prefer a longer one so as to give plenty of room for dealing intelligently inside of the abdomen. I have seen a number of operations performed, both in adherent and non-adherent cases, through this so-called inch and a half incision, that certainly gave brilliant results, but I cannot but believe, however, that in the great majority of cases a longer incision is much to be preferred, especially so with the great majority of operators, who depend largely on the sense of sight while dealing with the internal organs.
Before incising the peritoneum I think it well to digress from the subject and say a word in regard to making a differential diagnosis between an abscess which is adherent to the parietal peritoneum, and one which does not come in contact with same. When the abscess wall is adherent to the parietal peritoneum we will generally get absolute dullness on light percussion. If there be a coil of bowel between the abscess and peritoneum, we will get a slight tympanitic sound that is due to the air contained in the gut. If the abdominal wall is thick we may not be able to elicit it, but after we have made the incision down to the peritoneum, we can, by carefully separating the incised muscular structures and percussing immediately over the peritoneum, tell with definiteness when bowel intervenes. This will greatly aid us in incising the peritoneum, and is a good point to remember, else we may cut through an adherent intestine while thinking we are only incising the wall of the abscess.

If the abscess is adherent, the incision is made immediately through the same and the pus removed by the use of small sponges on holders, after the sides of the incision have been carefully protected by either gauze or flat sponges. If the abscess appears to be small, the opening in the peritoneum must likewise be only of sufficient size to pass in a sponge not larger than the tip of the little finger, and by repeated sponging all of the pus can be removed. This process is greatly aided by injecting hydrogen dioxide or pyrozone through this small opening in order to loosen up and soften the pus, which can be removed much easier and rendered more aseptic before any search is made for the appendix. If bowel intervenes between the peritoneum and the abscess, we should pass along the membrane on either side until it is found free from adhesion, and incise it at that point by a
free incision; then after carefully walling off the free cavity with sponges, a small opening is made in the wall of the abscess and its cavity dealt with in the same manner as before mentioned in the adherent form. After the abscess cavity appears to be clean, search should be instigated for any pockets of pus that may have become walled off from the principal pus cavity, and if any be found should be opened from the interior of the free pus cavity and cleared as above described. Should the disease be confined to the appendix alone, the peritoneum should be incised the full length of the original incision, and the appendix walled off by sponges from all the visceræ surrounding it.

When the appendix alone is involved, it is usually quite easy to break up its adhesion and bring out of the wound for excision, but where the abscess is not confined to the appendix it is frequently with the greatest difficulty that it can be removed, or, in some cases, even found after close search. In such cases it is thought best to desist, lest we break up adhesions making up the abscess wall, and infect the free cavity. If, however, the abscess cavity has been thoroughly cleansed with hydrogen or pyrozone this danger is greatly lessened. At present, though, in such cases I think we should content ourselves by freely draining, and if desired we can at some future time, when all sepsis has disappeared, operate for that purpose. In the fulminating form where the entire abdomen is affected large quantities of normal salt solution should be used to irrigate thoroughly the whole surface. While the greater number of this last form of cases usually succumb, this last and final effort should be made. The quantity of normal salt solution should be almost unlimited, and even then we are most sure to leave pockets of free pus remaining. I have performed
experiments on the cadaver by pouring milk into the bowels after the abdomen was opened, and then attempt to clear same by irrigating with water. I will say that if you have succeeded in removing all the milk after using a whole barrel of water you should feel congratulated, for it is seldom done.

There are several methods used for excising the appendix, any one of which offers a reasonable degree of success in certain cases. The technique, I think, should depend on the condition in which you find the appendix. If the upper portion has become soft and friable, it should be tied off and excised at its base, and if possible sutured to the edge of the wound; otherwise it must be thoroughly drained. If there be very much thickening of these walls it should be excised, its interior cauterized, and then ligated with catgut. Some also place Lembert sutures over the stump so as to approximate the peritoneal borders. If there be but little infiltration about the base of the appendix, then I think there is no method that gives so beautiful and safe a result as the purse-string ligature which is applied in the following way: the appendix is tied just above the point to be excised with a single looped half knot sufficiently tight to close its lumen; then with a round needle threaded with silk pass through the peritoneal covering and into the muscular tissue of the caecum just above the base of the appendix, at intervals of about a quarter of an inch, until the entire circumference is embraced. Now by holding on each end of the purse-string ligature, the cut stump of the appendix is pushed through the part surrounded by the purse-string, and the same time the ligature around the stump of the appendix is removed by drawing on the end supplying the loop. The stump of the appendix is inverted into the caecum, and, by tying the purse-string ligature, the
peritoneal surfaces are brought into exact opposition with each other. Now should the stump of the appendix separate, it is on the inside of the bowel and can do no harm.

In all chronic cases of appendicitis where adhesions have taken place with portions of the bowel, they should be inspected with the closest scrutiny, and where the peritoneal surface is seriously damaged it must be repaired before closing the abdomen. This is best accomplished by curetting off all the soft material and trimming off the ragged borders with scissors. The curetting is best accomplished by scraping with the knife, the edge of which is applied perpendicularly to the gut. After thoroughly curetting and paring off the edge, the healthy peritoneal surfaces are brought together by a few Lembert sutures. This procedure, I think, is of the greatest importance to insure against further sepsis following the operation. This prevents new adhesions from forming in the intestines, and the continuity of the petritoneal membrane exposed is perfectly healthy. This precaution and care of the intestines should always be strictly observed in all abdominal work. In so doing the interest of the anxious spectators who are viewing our work may be greatly impaired, but we will be rewarded by saving the lives of many of our patients that would otherwise have to succumb to sepsis, or, what is still worse, eke out their existence as chronic invalids from the new adhesions that are sure to form.

Where drainage is indicated, which is in all abscess cases, it should be afforded by narrow strips of iodoform gauze, or the gauze wick, carried from the point to be drained out through the external opening. Where the stump of the appendix is septic and friable and cannot be brought forward and stitched to the edge of the wound in the abdo-
men, it should be drained by a rubber tube surrounded by narrow strips of gauze carried to different points where drainage seems to be indicated. Before applying this drainage, arsénil should be rubbed into the surrounding surfaces, freely along the channel through which drainage is effected, to prevent further infection.

The opening in the abdomen should be closed by suturing each layer separately, and catgut is to be preferred for all buried sutures.

Now as to sponges, I think that for hospital purposes the large flat sponge, or the prepared gauze sponge, probably offers the best, or as good, a result as any in use. For private work I think prepared sponges made of the same material as bath towels are made from superior to all others they are capable of taking up as much fluid as a sponge, and are easy to sterilize and prepare when needed. Before beginning an operation that requires entering the peritoneal cavity, I would advise having prepared four large sponges, each twelve or thirteen inches square, eight large sponges eight inches square, and twenty-four small sponges four inches square. All these smaller sponges should have small cords or strings attached about one foot long, so as to avoid possible loss in the abdominal cavity.

SUMMARY.

The subjects touched on in this paper, which I hope will be discussed freely by the members present, are as follows:

1. If all cases of appendicitis could be operated on within the first twelve hours of their beginning, the mortality would be almost nil.

2. All cases do not require operation, but most operative cases can be determined within thirty-six hours from the invasion.
3. Operation should not usually be instigated when an external abscess is forming.
4. All cases should be operated on where an abscess has formed.
5. Our ability to operate intelligently must have great weight in making our decision, as well as the accessibility we have to our patients.
6. Symptoms are not always to be depended on, and are controlled by the character of the lesion and the organism producing the disease.
7. The different forms of incision should be suited to the different characters of the disease, also the method of incising the different structures in the abdominal wall.
8. Method of removing the pus with sponges and hydrogen, also all pockets of the pus should be searched for and removed when found.
9. Dealing with the appendix should depend on condition found, and the method of excision should be selected according to its pathological condition.
10. Intestinal abrasions should be carefully repaired in all cases when an adhesion exists in the chronic form.
11. The drainage must be completed and walled off by aristol freely rubbed into adjoining peritoneum to prevent further infection.
12. Sponges in private and hospital use may be made of different material to suit convenience.
MY FURTHER EXPERIENCE WITH ELECTROLYSIS IN GYNECOLOGY.

BY CHARLES ROSEWATER, M.D., OMAHA.

We learn largely by the experiences of those who have gone before us, recorded in such a manner that they may be of value to others. Thus it is that the present methods of treatment, the present therapeutic measures, are the results of the observations, not of a few, but rather the sum total of observations of all nations and all generations, to which it may or may not be our privilege to add our mite if placed in favorable circumstances for so doing.

Electricity is one of our therapeutic agents; but though its effects have been known to a certain extent even in remote antiquity, its special mode of action and usefulness have remained for modern times to develop. It has truly been said that we live in an electrical age, when the application and utilization of this wonderful power in all the various branches of industry have extended to a degree hitherto not dreamt of. And yet we are but in the infancy of its application, for its scope of usefulness is ever increasing and broadening.

However, it is not my object to treat here of the use of electricity in general, but only of the influence of the galvanic current on uterine diseases; in other words, the use of electrolysis in uterine derangements.

By electrolysis we mean that peculiar decomposing and disorganizing effect which the galvanic or constant current exerts upon animal tissues, resulting in their molecular disintegration and absorption without ulceration or gangrene. When the galvanic current is passed through certain animal tissues, alkalies are deposited at the nega-
tive pole and acids at the positive pole, resulting in the one becoming escharotic in its action, while the other (the positive) is strongly styptic. This is the effect at the different poles, but on the tissues between the poles the current has that peculiar decomposing influence which results in the gradual disintegration of tumors and their absorption without affecting the healthy tissues. This action is evinced upon the tissues of a low grade of vitality mainly, while upon healthy tissues of normal vitality the electrolytic influence is hardly effective. Thus, benign tumors, foreign growths, exudations, and the like are readily caused to disintegrate and become absorbed, while the only effect the current has upon healthy tissues is one of a tonic nature. I have not included in the above list malignant tumors, upon which I am not prepared to accede to the electrolytic current a beneficial action. In fact this is a question which has not yet been solved to the general satisfaction of the profession. I know that some have even claimed a very beneficial influence of the galvanic current upon malignant tumors, but this view is not concurred in by the vast majority of writers, who rather incline to the belief that the current exerts an evil influence upon such growths, and that whenever the malignancy of a tumor is established electrolysis is counterindicated.

In the following record of cases and methods of treatment I am not claiming any originality for the course pursued, but have only followed in the well-trodden paths made by others, and shall feel that my labor has not been in vain if my limited experience, added to that of previous observers, shall be of value to some of you in indicating which cases are suitable for electrolytic treatment and which are not, and what is the safest and best mode of procedure in such cases.
Electrolysis is not claimed to be a panacea for all uterine and pelvic ills, as some writers would have you believe, nor is it even safe to use this method of treatment in certain cases. I also wish to emphasize the fact that this is but one therapeutic agent, and that whoever resorts to its use need not feel the slightest hesitancy about simultaneously using any other therapeutic agents called for in the special cases treated. In fact, there are some therapeutic agents which, if judiciously used, will materially aid the electrolytic effect of the galvanic current. Such agents are iodine in its various combinations, used internally, moist heat in the form of vaginal douches and warm baths, proper diet, and the judicious regulation of other vital functions.

Case I.—Married, thirty-eight years old; rather corpulent, with florid complexion; mother of two children, fourteen and twelve years old. Both labors had been hard, but recovery was prompt and uneventful. Menstrual history uneventful until February and March, 1890, when the menstrual flow was preceded by severe pelvic pain and accompanied by the expulsion of clots. Flow lasted eight days each time. Shortly after last menstruation (April, 1890) patient took sick with a pelvic peritonitis, from which her recovery was slow and tedious, lasting from two to three months, leaving the uterus enlarged and extremely tender. From this time on patient has had very profuse menstruation, with leucorrhoea between times, but she will not consent to a curettement. Ordinary intrauterine applications and other local treatment have not benefited her appreciably. The history of pelvic peritonitis, the continued tenderness in the peritoneal region, and the obstreperous nature of the patient, who repeatedly disobeys her physician's directions, have led me to avoid trying electrolysis, though, had I a more-
docile patient, I should have been tempted to try a mild galvanic current, having seen very beneficial results from its application in cases of old inflammatory deposits. As strikingly illustrative of this point, I shall here relate a case which I observed in the years 1888 to 1891 and reported to this society in a previous paper.

Case II.—Married, twenty-eight years old; came to me for treatment for an endocervicitis, with the uterus bound down in a strongly anteverted position and cervix slightly lacerated. Three years before this she had had a miscarriage, following which she was sick in bed for sixteen weeks with a pelvic inflammation. In January, 1888, I attended her in confinement with her first child. The first stage of labor was delayed considerably by irregular dilatation of the os. This, in turn, was due to old inflammatory deposits, which held the junction of the cervix and body bound down at certain points, and prevented the symmetrical dilatation of the canal, just as after an iritis, with anterior or posterior synechia, the pupil will respond slowly and irregularly to the action of atropia. During the year 1889 I treated her several times for cervical catarrh by the old method of local medicinal applications to the cervical canal. I always found the uterus firmly bound down in an anteverted position. The treatment would benefit her for a while, but then again the old trouble would return. Thus it went until January 27, 1890, when I decided to try the application of electrolysis. A mild current of forty m. a. was applied to the cervical canal for a period of four minutes. These applications were repeated every three to five days, with the exception of the menstrual period, during which time and for forty-eight hours thereafter no application was made. The last application was made March 28, 1890. On April 5 patient reported that she had missed
her regular monthly period, and thought pregnancy had set in. I found the uterus now freely movable, forward and backward, as well as upward and downward, and as the cervical catarrh seemed to have ceased, the treatment was now discontinued. In the early part of May, 1890, she returned to me complaining of severe nausea and vomiting occurring every morning. I found the uterus enlarged and with a thick discharge issuing from the cervix. The cervical catarrh had returned, and I thought it worth while to try the application of electrolysis on the diseased mucous membrane of the cervical canal, in order to determine how far this was to blame for the vomiting. After two applications the vomiting was greatly ameliorated, and the local condition improved. From this time treatment was discontinued, and patient passed through a perfectly normal pregnancy, ending in a normal labor, with normal, regular dilatation of the os. This patient has remained in perfect health ever since that time—a period of over six years—since the removal by electrolysis of the residue of an old pelvic inflammation.

Case III.—Medium sized, rather emaciated lady, twenty-six years old, from the central part of Nebraska, came to me in November, 1891, with the following history: menstruation established between sixteen and seventeen, very regular and very profuse, usually lasting a whole week, but entirely painless. One child, born three and one-half years ago; labor uneventful; no miscarriages. Present trouble dates back about two years, when, on a visit at Kansas City, she took sick with what the physicians thought was some bowel trouble, but she had remained bloated ever since. This bloating had disappeared recently (in February, 1891). Present symptoms (November, '91,) are profuse menstruation, lasting eight days, great emaciation, and loss of weight. Pain in
the abdomen, especially in both iliac and supra-pubic regions. Upon examination I found upon the right side of the uterus a small fibroid tumor about the size of a fist. I applied galvanism every fourth day, positive pole intrauterine and negative on abdomen, treatment lasting four or five minutes each time and continued for about two months, with interruption at menstrual period. By the end of this time the tumor had disappeared, the general health had been restored, and the length of menstruation was reduced to three or four days. I have since seen the patient several times and find that the recovery has been permanent.

Case IV.—Small German lady, thirty-six years old, the mother of twelve children, the last born in February, 1894, sent for me August 27, 1894, and gave the following history: up to the birth of her last child her health had been normal, and even after that she felt well until in June, 1894, when she had a miscarriage, which was followed by very prolonged and copious hemorrhage, for which she had been under the care of several well-known physicians, one of whom had curetted the uterus, resulting in only temporary relief from her trouble. I found her rather emaciated and anaemic from loss of blood, but with an abdomen distended by gases, and a uterus which was subinvoluted, and also had on its posterior surface, a little toward the left side, a small pediculated fibroid. I instituted treatment by electrolysis, as in previous cases, every four or five days, with the remarkable result that after five treatments the uterus had returned to a normal size and the fibroid had disappeared. Her general health, of course, picked up immediately upon the checking of the hemorrhages, and as evidence of her recovery I can record that in November, 1895, she was delivered of a dead child after a very tedious and complicated labor,
with shoulder presentation, a midwife attending and send-
ing for assistance only after the bag of waters had rup-
tured and the shoulder become impacted.

**Case V.**—Married, 44 years old; no children, no mis-
carriages, though married over eleven years. She came
to me in February, 1895, with the following history:
first symptoms noticed were excessive flow at menstrual
period, every twenty-eight days, lasting seven or eight
days, but painless. Previously, until within three to six
months, the flow had been only slight during the first
four days, and then came with a gush for two days.
About two years previously (May, 1893) a tumor was first
noticed in the left groin. In the summer of 1894 patient
suffered for six weeks with pelvic neuralgia, due to the
presence of this tumor. Patient looks emaciated and
walks with a weak, uncertain gait. Upon local examina-
tion I find a tumor of uterus measuring four and one-half
inches in depth, and making the impression of being of
about the size of a small infant’s head. The tumor in-
volves the anterior wall and left lateral half of uterus, and
also extends down into the cervix. Os and vagina nor-
mal. Enlargement distinctly noticeable through abdom-
inal walls when patient stands. Loud, mitral regurgitory
murmur heard distinctly upon auscultation. Had it not
been for this I should have advised operative interference
in this case, on account of the large size of the tumor,
but felt justified, by the heart trouble, in trying to see
what electrolysis would accomplish. Accordingly I ap-
p lied the galvanic current every four or five days for
about five minutes at a time, the strength of the current
varying from 75 to 150 m. a. The tumor gradually de-
creased in size until in June, 1895, after less than four
months’ treatment, the uterus measured but three inches
in depth, the patient feeling well subjectively, and the ex-
cessive hemorrhages having ceased. I therefore discontinued the electrolytic treatment, and have simply kept the patient under observation, expecting to reapply the electrolysis should there be any signs of growth. The use of fl. ext. ergot and tinct. nux vom., which had been resorted to from the beginning of the treatment of this case, was continued, and the patient has remained in statu quo, the uterus remaining slightly enlarged, but menstruation being normal and the general health good.

Case VI.—Married lady, 28 years old, with healthy complexion, and an enlarged abdomen, was brought to my office by Dr. S. on June 14, 1895, with the request that I make a diagnosis. Pregnancy was suspected, but some of the essential symptoms were lacking. Patient's history was as follows: March, 1884, she was delivered of a boy in normal labor, but had quite a sick spell afterward, being ill with a fever for a month or two. Through all this time, however, she nursed her child. In June, 1885, she had a two-months miscarriage, from which she recovered completely. In 1886 she had "inflammation of the bowels." She was examined at that time under anesthesia by two doctors, but they expressed no opinion and did not return. Was sick at that time three or four months. Had bloody discharge from the womb all the time, and after she went home blood passed from her bowels for several weeks. This trouble was finally checked and her general health restored. Following the above attack she had typhoid fever. Menstruation regular since then, lasting four days and being painless. Breasts enlarged since January 1, 1895, and there is slight secretion of milk. Patient has had a few vomiting spells, but only a few. Pain in limbs. Urinary examination gives negative results. Abdomen enlarged as though patient were six months pregnant, the tumor presenting a smooth,
regular external surface and occupying a position more toward the left side. Uterus enlarged to correspond to abdominal enlargement. Hegar's sign absent; also no fetal parts to be felt, nor heart sounds heard. Still there was some slight discoloration of nipples, with the formation of a secondary areola, and bluish discoloration of vagina. The diagnosis was left in suspense for nearly two months, during which time the patient was seen occasionally. At about the latter part of July, 1895, she came to my office stating that she thought she was losing ground, and so, after another careful examination, I decided the case to be one of a non-pregnant enlarged uterus; in other words, a uterine tumor, probably a fibroma, so located as to be unaccompanied by the profuse hemorrhages which usually come in the wake of these tumors. I began the use of electrolysis, the negative pole intrauterine and the positive on the abdomen. The tumor gradually decreased in size, until the treatment was interrupted by an intercurrent attack of right-sided pleurisy. During the attack her general health failed, and she lost strength rapidly, but by the energetic use of tonics and feeding she again regained her strength sufficiently to be able to continue the electrolytic treatment on October 10, after nearly two months' cessation of this treatment. Fortunately, the tumor had remained stationary in its growth during this time, and when again attacked by the galvanic current it yielded nicely, so that by the middle of November, 1895, it had become considerably diminished (about 50 per cent). Patient from now on discontinued the electrolytic treatment, but continued the syr. hydriodic acid (Gardner's), which I have sometimes used in these cases. I did not see her again until the 27th of January, 1896, when I was hastily summoned to her bedside. She had taken a bath with the
water at 90 degrees F. and walked across the street a few minutes after the bath. In the night she had a succession of chills, but when I called the next day I found the temperature sub-normal, the pulse 160, small, thready, a drawn, pinched expression about the face, abdomen enormously distended and very tender. Patient in a condition of shock, followed by an attack of peritonitis, from which she died February 12, 1896.

This last case was one of those unfortunate ones with which the physician occasionally meets, where an apparently successful result is marred by some great indiscretion on the part of the patient. She had not been treated by electrolysis for over two months, and her death was attributable directly to the peritonitis, induced by a too cool bath and exposure thereafter.

I have selected these cases from among a number which have been under my care during the past few years, for the reason that they amply illustrate the action of the electrolytic current and some of its uses. Electrolysis has a wide range of usefulness in uterine diseases, in some of which its action is more prompt, precise, and efficient than that of any other therapeutic agent which we now possess. Thus, it has no equal in the treatment of chronic endometritis, subinvolution, and the after-effects of pelvic inflammations, where the uterus and other pelvic viscera are bound together by the plastic exudations remaining after the acute inflammatory symptoms subside. It has been used to check the development of extrauterine pregnancy, but here its field of usefulness is disputed by many, and it is not my intention to discuss this point today.

One of the greatest fields of usefulness of electrolysis is in the cases of benign uterine tumors, such as fibromata and myomata, many of which can be brought to al-
most complete absorption by electrolytic action, while a still larger number are checked in their growth. In all acute inflammatory conditions about the pelvis its use is to be shunned, as tending rather to aggravate than relieve the existing trouble.

In order to utilize the electrolytic current it is necessary to have the following apparatus: a good and sufficient galvanic battery, composed of at least twenty-five to forty cells. I have used a Barrett dry cell battery for over eight years with uniform satisfaction, it having needed recharging only twice in all that time. Connected with the battery is a current controlled as devised by Massey, enabling one to turn the current on or off and increase it gradually without shock to the patient. Added to this, there is interposed between the battery and the patient, or rather between the current controller and the patient, a galvanometer, or milliammeter, which, by measuring the strength of current passing through the parts treated, enables one to regulate the strength of current according to the necessities of the case. In the case of endometritis and troubles of the mucous membrane very mild currents (10 to 30 m. a.) give the best results, while in uterine tumors, fibroids especially, much stronger currents (75 to 150 m. a.) are necessary. The electrodes used are a round block-tin, felt-lined, abdominal plate, and a platinum intrauterine electrode, such as were devised by F. H. Martin.

In cases where the uterine disease is accompanied by excessive hemorrhages the positive pole should be used intrauterine; also in cases where the current is very strong. In other instances the choice of the pole for intrauterine use is not of great importance.

Armed with the above apparatus, handled with proper
care, better results can be obtained by electrolytic treat-
ment in suitably selected cases than by any other thera-
peutic measure.
THE MENSTRUAL FUNCTION IN INSANE PATIENTS AND THE EFFECTS OF OVARIOTOMY.

BY MINERVA M. NEWBECKER, M.D., ASYLUM.

An opinion prevails quite extensively that uterine diseases are largely responsible for insanity in women. There is no inquiry so frequently made by the friends of the female patients at the asylum as that regarding the restoration of the menstrual function. The general impression seems to be that, if suspended menstruation can be once more established, the worst is over and the patient is in a fair way to recover. This feeling is also shared by the patients themselves. It is nothing unusual for patients who are mildly insane, or the more violent at rational intervals, to ask for medicine "to bring them 'round." (I use their own expression.) I have one woman in my violent ward who menstruates regularly, and after each period comes to me and says, "I was sick this week; now can't I go home?" Yet this woman has been in the asylum for five years, and is no better mentally than when she entered. Some will refuse to take medicine unless they believe it will cause a return of the monthly flow—so fixed is the idea of the relation of the menstrual function to pisease of the body and mind.

With these facts before me, I set out to investigate the subject, and met with the usual disappointments. In the first place, the physician can gain no reliable information from the patients themselves. They can give no account of their condition, even if they attempt it. Their history is so distorted with their delusions as to render it valueless. The "physicians' returns" are little more to be de-
pended upon, as the examining board labors under the same difficulty as the hospital doctor. A physical examination cannot be made in the case of many patients without the use of an anesthetic, and to give chloroform or ether to a wildly maniacal patient requires such a struggle as to render the undertaking dangerous both to patient and physician, so that in the majority of patients thus examined the ends do not justify the means. With the milder cases examination and treatment are possible, though not always satisfactory, on account of the peculiar and disagreeable delusions cherished by a large majority of these patients. For these, and other reasons, hospital records are liable to be more or less inaccurate, especially on this particular subject.

In order to arrive at some approximately correct conclusions, I have taken the histories of some 200 patients under my care during the last year and a half—patients varying in age from 16 to 78 years, the greater number being between 25 and 50 years of age. Of these 180 were in the house at one time, the remaining 20 having been discharged or transferred within a few months. Of this number I find 54 had passed the climacteric when they entered the hospital; 50 menstruated in one or two months after entering; 74 menstruated in from three to four months to a year after; 1 not until two years; 19 not at all; and 2 were ovariotomy cases. Of the 50 who had no cessation of the menstrual flow, or omitted but one or two months, all are chronic cases, excepting seven. These latter have been in the hospital but a few months and are liable to recover. The larger number who suffered from temporary amenorrhoea have had the menstrual function restored in from four to six or eight months. There are comparatively few instances where it has been delayed for a year or more, and I have found but one in
which it was resumed after two years. This was a case of acute melancholia, the patient being persistently suicidal, with homicidal tendencies. She refused to eat, part of the time requiring to be fed with a tube. Frequently she managed to free herself from restraints that were used to keep her in bed at night, and once was discovered in the act of trying to hang herself. To prepare her for bed and clothe her in the morning was no light task. This was kept up for nearly two years; she then became more tractable, when her health improved also, and at the expiration of about two years from the time of her admission to the hospital she menstruated. She has now ceased to be violent, but she rarely speaks to any one, and never goes to the table with the other patients, refusing her meals unless they are sent to her room and she is left alone. In this case delayed menstruation was evidently caused by the excited mental condition of the patient. When the violence of the disease subsided, the patient returned to regular habits of living and the menstrual function was resumed.

Among those who have not menstruated at all, or only once or twice since admission, four were in the hospital but a few months and were discharged recovered. I have not been informed in regard to their present condition, but have reason to suppose that, as they are normal in other respects, they are in regard to the menses. Several have recovered their mental status and are about to be discharged; others are improving; a few are chronically insane. One is an epileptic, who suffers from many and severe convulsions. Before each attack she becomes noisy and talkative. After a series of convulsions, extending over several days, or a week, she is exceedingly stupid, lying in bed, unable to talk or even feed herself. She is now twenty-eight years old and has had epilepsy.
for sixteen years—said to have followed sunstroke. She has been in the hospital three years and menstruated once, about a week after she entered. In short, with the exception of those who have reached the climacteric, nearly all of my chronic cases menstruate regularly. This would seem to indicate that menstrual irregularities cannot constitute a very strong factor in causing mental disease; otherwise a return to normal conditions would at least favorably affect, if not cure, the mental derangement. I have observed, however, that during the menses the mental symptoms are frequently exaggerated. The violent and excitable patients are more violent, and the stupid and hysterical are temporarily worse. This may be due to a disturbance in the circulation, or to pelvic pain, or both; such a delicately adjusted apparatus as the nervous system must of necessity respond readily to disturbing influences. On the other hand, the mental condition does modify to a great extent the menstrual flow. In almost every case there is a cessation of the catamenia for at least one or two months, even in the mildest cases.

Two reasons may be adduced for this: one is the debilitated condition of the patient, resulting from a lack of nutrition. When the mind becomes unbalanced there is no longer that care for the physical that obtains among the sane. All healthful habits and pursuits are abandoned. Sleep is interfered with, appetite fails, or food is rejected on account of some delusion—the fear of poison, or threats from some imaginary being. The patient lives in an unnatural world; she hears voices and sees things that annoy and frighten her. She is kept in a constant state of agitation and distress, in consequence of which the general health suffers; the excretions are more or
less deranged, the menstrual flow with the rest, the same as in other acute diseases.

The other factor is imperfect innervation. We all know what a powerful influence the mind exerts upon the body through the sympathetic system. Dr. Kene says menstruation is a "nervous function" governed by the "menstruation nerve" described by Johnstone, and suggests that as there are, in the lumbar enlargement of the spinal cord, centers for micturition, defecation, parturition, etc., there is probably a menstruation center, from which the pelvic splanchnics carry impulses that run along Johnstone's nerve to the uterus. This being the case, it is easy to see why menstrual derangements are so common among insane women, and amenorrhoea is the rule. Now if these patients are placed in good hygienic surroundings, are obliged to take exercise, have regular hours for meals and sleep, a majority of them soon improve physically, and with improved nutrition comes improvement in the functions of all the organs. Hence we find the menses recurring with accustomed regularity among women who have suffered alienation for years, and are liable to spend the rest of their lives in an insane asylum.

Now, while I agree with the author already quoted, that "women will lose their reason and regain it without much help or hindrance from their reproductive organs," I do not wish to be understood as denying all etiological relations of disease of the brain and sexual organs. There are numerous cases on record showing that organic diseases of the generative organs have, either directly or indirectly, caused insanity. All serious diseases of the ovaries, uterus, and vagina, resulting in change of structure or position, impair the general health and react upon the mental faculties; especially is this liable to be
the case where there is any taint of heredity, and I think that heredity is an underlying cause that frequently never comes to the knowledge of the physician. It follows, then, that since these diseases produce insanity, they may be active agents in keeping up the condition, and retard or prevent mental improvement. Such cases call for active interference, but here again the physician is confronted by a serious difficulty. Treatment that would be accompanied by but little risk in the sane becomes extremely dangerous in the alien. The only laparotomy I ever saw performed upon an insane person resulted in death. The operation was performed without a flaw, the patient recovered readily from the effects of the ether, but all attempts to keep her quiet were ineffectual. In a moment, without the slightest warning, she seized the iron rod at the head of the bed, drew herself up by both hands, and before the astonished nurse could prevent it, jumped out upon the floor. The violence of the act tore out the stitches, and in spite of immediate attention she died within thirty-six hours. The woman was known to be unsound mentally, but had not been violent while in the hospital. It might be argued that such an accident would not have happened in an insane asylum, with all its appliances for restraining violent patients, but I have never seen apparatus so complete as to prevent injury to a serious wound through the persistent struggles of a maniac.

This brings me to a consideration of my two ovariotomy cases, one of which is still in the hospital. This patient was admitted in June, 1896, and has the following history, given in the physician's return: "Patient is 36 years old; married; has no children. There is no insanity in the family; her father died at 60 years of age, mother living, age 73 years. Menstruation, somewhat
irregular and scanty. In April, 1895, the uterus was curetted. In October, 1895, the uterus and ovaries were removed, also piles and papillae of the rectum, with dilatation of the urethra." Then follows a description of the mental state: "Patient dull and stupid, wanders away from home; will not talk, careless in dress, etc."

The patient, who is a fairly intelligent woman, suffering from subacute melancholia, gives this account of herself. She was delicate as a child; menstruation was very scanty and irregular, occurring at intervals of from three to six weeks. She married, at twenty-six years, a widower with a number of children, and she "never could get along with his family." Her husband required too much of her as a wife; her health broke down, and there was domestic trouble. Finally she was placed under the care of a physician, at which time the curetting was done. Later she became pregnant and had a miscarriage at about six weeks. Some time after this she had the operation for removal of the ovaries and uterus, per vaginam; she has not menstruated since. Examination reveals a clean wound, well healed, and all the parts in a healthy condition, but there is no amelioration of her mental symptoms. Whether or not the operation was done to improve the mental condition, as well as the physical, I do not know. Her husband said "They thought it would improve her mind," and states that she was better for a short time after the operation, but soon relapsed.

No. 2 has the following history, also copied from physician's return: "Patient is twenty-four years old; single; is of a nervous temperament, and suffered much from headaches before she became insane. A third cousin, on the mother's side, died in an asylum. About three and a half years ago she became violent and disobedient; laughed and cried without cause, sometimes refused to
talk, etc. Exciting cause, la grippe and overstudy. A year ago her ovaries were removed, and she was better for about six months; menstruation ceased." This patient was in the hospital a little over three months. She brightened up, was less resistive, and became quite agreeable, when her mother came and took her home. After an absence of a year, her mother writes that her daughter has grown worse, and it will be necessary to return her to the hospital. She is now awaiting admission. In neither of these cases was there any marked change in the mental condition after the operation. What little improvement was manifested is no more than one would expect in any case from enforced quiet, rest in bed, and judicious medical treatment.

In closing, let me give an extract from a letter I received from Dr. Alice Bennett, late of the Norristown Hospital for the Insane, in Pennsylvania. She says: "I think the cases very rare where the suppression of the menses has a causative influence in producing mental aberration. I believe such cases do occur, but rarely. I remember one young German girl, with a flexion of the uterus, who became insane and committed a violent assault at the time when the menses should have come. She came to us as a criminal patient, and seemed to be entirely restored by appropriate treatment. On the other hand, there is nothing more common, and more natural, than for the menstrual function to be interfered with in cases of acute insanity. We habitually expect it to be suppressed, and to return naturally when mental health is restored. Cause and effect are very commonly confused among the laity, and even among physicians who have not had experience of such cases. Often the family beg us to 'give something to bring on the sickness,' being sure that nothing else is required to bring back the men-
tal health. When a condition of chronicity has been reached, generally the menstrual function is regularly performed, but, with few exceptions, the mental symptoms are worse at such times.

"As to removal of the ovaries as a cure for insanity, it is very much overestimated, in my opinion. I believe if the fact of a diseased condition of the ovaries can be established, that the operation is justified and even demanded, although even then the cautious physician will not promise a cure. A number of cases have been brought to us (at Norristown) of chronic insanity, with a history of removal of the ovaries at some preceding stage. I was instrumental in having six cases done at Norristown. One case died of peritonitis; three recovered; one, a chronic case, which began as puerperal mania, was much improved; one, with epileptic seizures of puerperal origin, was rather worse, if anything. In the last two the ovaries were very much diseased. Two of the recovered cases might have recovered without the operation, as they were of short duration. One of the two has since passed successfully through a second attack. The third was, I believe, really cured by the removal of much diseased ovaries. A good deal more testimony is needed, as you see."
PAROXYSMAL TACHYCARDIA AS A MENSTRUAL CONCOMITANT.

BY I. N. PICKETT, M.D., ODEL.

Hannah J———, of Nelson, Neb., age sixteen, of Danish parentage, a blond, rosy cheeked girl, with good appetite and digestion, but slightly constipated, applied for treatment May 1, 1895, for "monthly sickness."

She gave a history of good health until nine years of age. In 1891 she had la grippe, from which she speedily and fully recovered.

She knows nothing of her father except that he is living. Her mother died suddenly while pregnant eleven years ago. From the girl's statement I believed at the time that her mother was an epileptic, but recent and more definite information on this point leads me to believe the cause of death was puerperal eclampsia. The girl was the youngest of four children, the two brothers and one sister being adults, each with a history of perfect health from childhood until the present time.

At nine years of age the present trouble first made its appearance. The paroxysms recurred at irregular intervals until menstruation was established, when they assumed the periodicity of, and either preceded a few days, accompanied the flow, or followed this function in less than a week. The first menstruation occurred in January, 1894, and was regular until the following August, when she missed two months, menstruating again in November, since which time the menses have appeared regularly. There is some pain (which of itself is insignificant) about twenty-four hours before the flow begins, this pain disappearing when the flow is established.
The flow is scant, as she "seldom finds it necessary to use a napkin." At each menstrual period, either a few days before, during the flow, or sometimes—though seldom so long as a week—after, she is suddenly seized, while walking, sitting, standing, at work or at rest, and, at the beginning of the disease more frequently though now less often, when asleep, with a "fluttering in the region of the heart," breathlessness, a throbbing, roaring noise, headache, dizziness, and faintness, nausea, soon followed by vomiting. There are flashes of light before the eyes, and a sensation of heat over surface of the body. The subjective symptoms are cyanosis of the face, trunk, and limbs, accelerated and at times sighing respirations. The surface of the entire body is cold to the touch. Extreme rapidity of the heart's action, from 180 up until the pulse, which seemed to be regular, was lost in a "flutter" or vibration. The heart murmurs were so altered in time and quality that I could not recognize either the first or second sound. These symptoms would last from two to twelve hours, when, with the suddenness of their onset, to use her own description, "something catches my breath, there is some pain in the region of the heart, which seems to stop beating; there is a distressing fullness of the head. These last for a moment, when I drop into a quiet sleep, to awaken feeling somewhat fatigued, but otherwise fully restored."

While the case was under my observation these symptoms would appear at each menstruation and in the order here given. During the inter-menstrual period her health was considered perfect. No hysteria or neurasthenia.

A physical examination of the pelvic organs revealed nothing to support the idea that the cause would be found in either the ovaries or uterus. My diagnosis was parox-
ysmal tachycardia due to a "nervous explosion" of an epileptic nature, involving the cardiac centers, and connected in some manner with the menstrual function. Bromides, antispasmodics, and digitalis, had no effect. Tinct. veratrum veride in doses of five to ten drops every half-hour until emesis was secured promised for a time to be of service, as the last paroxysm I saw her in two doses had controlled the erratic, runaway heart, and she was elated over the result.

At this time I lost sight of the case, until a few weeks ago I received a letter from her stating that this agent now fails to relieve her, and that the symptoms have returned with increased severity, and with the additional information that the paroxysms have lost their former periodicity and are now liable to occur at any moment, irrespective of time or condition.

Ice cold water does not control, but seems to be the most efficient agent in mitigating the severity of the paroxysms. Hot coffee seems to influence the violent heart's action favorably, but it increases the cerebral distress.

The word tachycardia is derived, as you know, from two Greek words: Tachys, meaning quick, and Cardia, heart. Quick heart or heart hurry of some authors. From the strict derivation of the terms it could be applied to any rapid action of the heart. But H. C. Wood, who was the first to name this perplexing cardiac disturbance, restricts the use of the term, and in his article in the University Medical Magazine, defines the disease to be, "a recurrent paroxysmal neurosis in which attacks of excessively rapid action of the heart occur without obvious, immediate, or predisposing cause, and without pronounced pain or excessive cardiac distress." Osler says: "it is a remarkable affection characterized by spells of heart hurry, during
which the action is greatly increased, the pulse reaching 200 and over,” and that “the cases are not common.”

If we accept the above definition, we must exclude rapid action of the heart associated with organic cardiac disease, such as valvular lesions. It also excludes sensory affections such as angina pectoris, or any pronounced painful condition in the cardiac region, inflammatory and febrile excitation, exophthalmic goiter, and all general constitutional disturbance. This leaves us with purely a cardiac motor disturbance, which arises with the rapidity of a tempest, and Wood very appropriately designates it “a cardiac nerve storm,” and suggests that “the paroxysms are caused by discharging lesions affecting the centers of the accelerator nerve.” This, so far as I can learn, is the generally accepted theory in preference to the views of some writers that the cause is a temporary inhibitory paralysis.

It may here conduce to a better understanding of this strange and complex condition if we briefly touch upon the physiological aspect of the cardiac impulse, and recall to our minds a few of the fundamental principles governing the tissues here involved, muscle and nerve tissue, the heart muscle, and the augmentor nerve. And without entering into the histology of these structures it will suffice to say that the muscular tissue of the heart belongs to the involuntary class of contracted tissue, and that it is less highly specialized than the skeletal muscle. The striation is more obscure, the differentiations less complete, and it resembles more nearly the primordial protoplasm, an attribute of which Foster says is automatic or spontaneous movement, and this is important to bear in mind when considering the origin of the cardiac impulse. The cardiac muscle, like the skeletal, is irritable, but, unlike the latter, the response or contraction following an im-
pulse is not in proportion to the stimulation. There is either a strong contraction or none at all. Another marked difference is that it is almost impossible to produce a tetanic contraction of the heart muscle. The accelerator nerve belongs to the splanchnic system, and its fibers are traced to the inferior cervical ganglion of the sympathetic. This nerve, like the muscle and all nerve tissue, is endowed with an inherent irritability, but, unlike its antagonist, the inhibitory, it is composed of non-medullated fibers, and still unlike other efferent nerves does not possess trophic influences. Its function seems to be purely the transmission of motor impulses. And while it possesses the fundamental attribute common to all nerve tissue, irritability, a stronger stimulant is required to produce an effect, a longer time is occupied in the transmission of impulses, and it is less easily exhausted than the inhibitory nerve.

For the sake of brevity we omit the consideration of the origin of impulses by submitting a few propositions, embracing the fundamental principles involved in this subject.

First—Both muscle and nerve possess irritability which is inherent.

Second—Muscular action in general, but the cardiac less so, is dependent upon nervous impulses which have their origin in the central sensory organs and gray cells.

Third—A nervous impulse is generated when there is a change from a phase of a lower to one of higher irritability.

Fourth—The influence which brings about abnormal and excessive muscular action is a stimulant, which is excessive. These propositions, I believe, will apply to all abnormal muscular action, as well as the subject under consideration. They also make clearer, if not wholly ac-
count for, that condition we often hear and some writers designate as functional disorders. Paroxysmal tachycardia is classed a functional neurosis, but the abnormal, rapid action of the heart is the result of an excessive stimulation of the augmentor nerve supplying this organ. This nerve, as a result of setting free of an abnormal amount of nerve energy ("discharging lesions" of Wood) in some part of the nervous system, is in a cataelectrotonic condition. That is, there is a sudden change from a phase of lower (or normal) to one of higher (or abnormal) irritability, and the accelerator center is hyper-responsive to emotional impressions and reflex impulses.

There is one other point in connection with the heart's action to which I wish to call your attention before leaving this subject. I refer to the phases of the cardiac cycle. We find that while the sinus, auricle, and ventricle possess the power of automatic contraction, they do not possess the same degree of irritability, and that while the heart's action is in some way more or less controlled by nervous influences, the rate and force of the beat depend quite largely on the impulses sent to it over certain nerve fibers. You remember that the contraction begins in the sinus venosus (which Foster asserts "possesses a higher rhythmic potentiality"), passes to the auricle (being next in degree of irritability), and lastly to the systole, is completed with the ventricular contraction. The diastole now begins, this period of rest or dilation occupying more time than the contraction. Foster approximates the duration of the different phases of a normal heart beating seventy-two times per minute as follows: "Systole of the ventricle, before the opening of the semi-lunar valves 0.1 second; escape of blood into aorta 0.1 second; continued contraction of the empty ventricle, 0.1 second; total systole of the ventricle 0.3 second; diastole of the ventricle, includ-
ing relaxation and filling up to the beginning of the ven-
tricle systole, 0.5 second; total cardiac cycle 0.8 seconds.”
The same author asserts that “in a rapidly beating heart,
it is the pauses (which in normal beat occupy about fifty-
four to sixty per cent of the cardiac cycle) which are
shortened, and not the actual duration of the beat.” If
impulses are transmitted over nerve fibers, that are dis-
tributed to the parts possessing the “higher rhythmic
potentiality” the rate of the beat will be most markedly
influenced by shortening the pauses of the cycle, and the
force of the beat will be but little changed.

In 1879 Francois Frank, in a series of lectures, as-
serted that “any great increase in the heart action, not
accompanied with an increase in the arterial pressure, is
primarily due to a shortening of the diastole, and that
during the heart’s systolic contraction so little blood is
expelled that the average amount is not increased.” And
I believe that the cyanosis, in the above case, may ra-
tionally be accounted for upon the hypothesis that it is a
venous stasis, as a result of a diminished amount of blood
being delivered at the systolic contraction. As to the
cause of this sudden setting free of nerve energy, Whit-
tier, in the Annuals of the Universal Medical Sciences for
1892, states that little is known. Sexes are equally af-
tracted, and the attacks begin between forty and fifty
years of age. There is seldom nervous heredity, no hys-
teria, or neurasthenia, but it is admitted that it may be
a manifestation of epilepsy.

Huchard, in commenting upon a case reported by
Talamon, which seemed to be of a traumatic nature, “was
disinclined to admit the epileptic origin of tachycardia
inasmuch as the latter was a disease of advanced age,
while epilepsy always began in young subjects.” Whatever
be the origin of this disease, whether it is a local
manifestation of a general neurosis, a cortical epilepsy, hysteria, or neurasthenia, I believe that the above case answers Huchard's objection, and that tachycardia is not always a disease of advanced age.

The pathology is equally obscure, necropsies revealing nothing, and most of the theories thus far advanced have been found untenable. The most rational and generally accepted is that it is a "discharging lesion" involving the accelerator fibers of the sympathetic. The prognosis is doubtful. Wood claims that "the disease has no apparent tendency to shorten life or develop organic disease." Courtois-Suffit, of Paris (Annuals of the Universal Medical Sciences, 1892), insists that "whatever the cause, essential paroxysmal tachycardia is a grave affliction." Bouveret reported eleven cases, one of which was cured. The mode of death is by syncope. The result of a search through the limited literature at my command for treatment may be summed up in the one word, unsatisfactory. The administration of one remedy may for a time promise success, but there is generally a relapse sooner or later to the former course of the disease. The nature of the disease seems to be relentlessly progressive. Each case is a law unto itself with regard to progress or susceptibility to influences which bring about the essential discharge of abnormal nerve energy. The special points of interest to me are: first, I believe the above case is a typical one of essential paroxysmal tachycardia which, as Osler says, is uncommon; second, that it is the earliest age at which this trouble has been found or reported; third, that from the age of nine the disease pursued an irregular and indefinite course until puberty, when for a period of more than two years it was a menstrual concomitant, but of late the intermenstrual period seems to be no bar against the paroxysms of heart hurry.
SURGICAL TREATMENT OF RETROFLEXIONS OF UTERUS.

BY G. W. SHIDLER, M D., YORK.

After considering the many different ways of treating retroflexions of the uterus and the unsatisfactory results obtained by the various forms of treatment, it has occurred to me that there is a way of treating this trouble not mentioned by any authorities up to the present date. The following is the plan to be adopted:

If the uterus is adherent in its retroflexed position, it is first necessary to free it from its attachments. I would say, in order to be brief, that it is understood that aseptic, and, if necessary, antiseptic precautions of the most approved order in modern abdominal and pelvic surgery are to be strictly observed. It is to be hoped that at the present day there are but few, if any, so reckless as to undertake abdominal or pelvic surgery without acquainting themselves with the most recent technique of the operation.

If it becomes necessary to make abdominal section in order to free the uterus, this operation is easily performed, and even more so than when the uterus is mobile and abdominal section not required. The uterus is to be freed from its attachment, if any, by abdominal section or otherwise, so that it may be put in a position with the fundus slightly anterior to that of normal. If abdominal section has been made and the uterus is freed from all attachments, the peritoneum should be incised horizontally just above where it is reflected from the bladder to the uterus, and, denuding the anterior portion of the uterus as near to its vaginal attachment as possible, pass a No.
6 or 8 chromicised catgut through the anterior portion of the fundus from right to left or left to right, horizontally with the body of the uterus, but not entering the cavity of the organ. The thread should cross to the opposite side of the uterus and there be made to pass back to the same side through the anterior portion of the cervix, just

Side view with ligature in position and uterus slightly anteflexed—ligature acting in relation to uterus as a bow-string to a bow.

above the vaginal attachment. The thread is now to be tied with the one from the opposite side of the fundus. This leaves the thread passed through the cervix and fundus and crossed over the anterior portion of the body of the uterus. By drawing the thread tight before tying
it, the uterus can be made either straight or, what is to be preferred, slightly anteflexed, with the catgut acting in relation to the uterus as a bow-string to a bow.

The incised peritoneal surfaces can now be approximated, and if catgut is used and the operator is friendly to anterior fixation, it is an easy matter to attach the fundus to the lower portion of abdominal wound. The catgut used is supposed to be chromicised and will last from thirty to ninety days. The abdominal incision being now closed, it remains to pack the uterus with iodoform gauze, or use some suitable uterine stem, such a one as was introduced by Dr. Gill Wiley, of New York. The vagina should now be packed with cotton, wool, or iodoform gauze, in such a way as to keep the cervix well back, thereby necessitating the fundus occupying a position.
which can be made slightly anterior to that of normal. This can be greatly facilitated by keeping the bladder empty for the first few days. Should the uterus be found movable, and either free from or in condition capable of being made free from all attachments, the operation can be easily performed through the vagina. After taking all necessary precaution to make the vagina and uterine cavity antiseptic, an opening should be made at the anterior junction of the vagina with the uterus. The greatest danger is that of injuring ureters and bladder, which to an experienced operator is slight. After opening the peritoneal cavity and examining the uterus, tubes, and ovaries, the fundus can easily be brought down with a vulsellum and a suture passed through the anterior portion of the fundus, the same as when abdominal section has been made. After passing the suture through the anterior portion of the fundus and cervix and tying it the same as before described, the utero-vaginal surfaces should be carefully united. Should it be desirable to use either silk-worm gut, silver wire, or silk for suture holding uterus in anteflexed condition, it can safely be done, and by leaving the knot just above the attachment of vagina to cervix, it is an easy matter to remove it when thought necessary, under the influence of eucaine or cocaine. This operation has many features to commend it. One is the simplicity of operating through the vagina when the attachments will permit of this operation; another is that if chromicised catgut is used, it can be relied upon that the corrected position can be retained for from thirty to ninety days, and if a longer period be required other sutures may be used and removed with little difficulty, if the knot is left just above the vaginal attachment of the uterus.

I wish to comment on the results to the body of the
uterus and the ligaments supporting the same. The an­
terior ligaments will become shortened and the posterior
lengthened. The anterior and posterior walls of the
uterus will undergo relative changes, and with possibly
the exception of the use of the uterine stem, and with
some packing of iodoform gauze for the first few weeks,
I think that the accustomed use of the vagina as a toy
shop for the display of uterine inventions will become a
thing of the past, as far as uterine retroflexions are
concerned.

In case massage is considered advisable it can be used
as soon as the immediate tenderness following the opera­
tion has subsided. Outside of the operation, all of the
objections of “ventral fixation,” anterior “vaginal fixa­
tion,” and “Alexander’s operation” are overcome. This
allows of perfect mobility, but no fixation. This opera­
tion will, I am quite certain, commend itself to the
thoughtful gynecologist, and it is his attention that I wish
to attract. Since satisfying my mind of the benefits of
this operation, I have not had an opportunity to perform
it, but hope some of my medical brethren will try it and
report the results at an early date.
THE EYE IN ITS RELATION TO GENERAL DISEASES.

W. L. DAYTON, M.D., LINCOLN.

My object in presenting this paper is twofold, viz., to direct the attention of the practitioner to the number of diseases in which the eye assumes an important role, and to incite and encourage the general practitioner to devote more time to diseases of the eye and to the use of the ophthalmoscope, as an aid in the diagnosis of many obscure diseases.

The eye may be involved either primarily or secondarily, the symptoms may be objective or subjective, we may find in the eye certain diagnostic signs or pathognomonic symptoms which may lead to the proper diagnosis of an otherwise obscure disease. Its pathological connection with a disease may be such as to render it a pathognomonic symptom or more or less diagnostic. It may have diagnostic significance or may be present simply as a coincidence. It behooves us as medical men to carefully search for every evidence of disease and its pathological relations in order that we may successfully treat our cases.

I believe, as a rule, the average student, while at college and attending clinics, is very apt to devote less time to diseases of the eye and ear than to any other branch of the college curriculum, with the idea, no doubt, that he will not treat diseases of these organs, but refer them to the specialist. The physician with his field of labor situated convenient to a specialist may carry out this plan successfully, yet I think it wrong in the premises, for the eye is an important factor in the human economy, closely
allied to the brain and nerve centers, and its anatomical physiological, and pathological conditions should be studied as thoroughly, if not more carefully, than are the other important organs of the body. The physician, even though he may not desire to treat them, should be prepared to carefully diagnose his eye cases, to differentiate between the simpler diseases and those which may demand prompt and heroic treatment or operative measures. Aside from the study of diseases of the eye, the ophthalmoscope brings under observation appearances which may be important as symptoms of obscure disease. Within the eye, as in no other structure of the body, the termination of an artery and the commencement of a vein is presented to view, from which information regarding the general state of the vascular system is gained.

Certain morbid appearances of the blood-vessels of the retina or the optic disk may denote a remote disease, or perhaps be a pathognomonic symptom of a morbid structural change in some remote organ. Congestion or hyperaemia of these vessels on the one hand, or a deficiency of blood—anaemia—on the other, may denote a lesion of the nerve centers. An extravasation of blood into the retina may warn us of changes in the intracranial vessels, involving a liability to cerebral hemorrhage or apoplexy. The characteristic appearance of the fundus has repeatedly led to discovery of renal change and brain lesions which had previously been unsuspected. Inflammation of the optic nerve or retina and atrophy of the optic disk are significant in certain cases of intracranial or intraspinal diseases. In disease the subjective symptoms referable to the eye may be wanting. There may be neither subjective symptoms nor defect in vision, yet the ophthalmoscope may show marked structural change, denoting organic disease elsewhere. Especially is this true in intracranial tumors.
In the scope of this paper I shall not attempt to describe symptoms, excepting when I think it will interest and make the subject more clear to you; neither shall I attempt to formulate or recommend treatment, nor enter into the general pathology of disease, but will confine myself to diseases of the eye, external and internal, that may occur as a symptom, diagnostic sign, or sequel of specific or general disease. As a frequent repetition may be necessary for a clear understanding, I trust you will tolerate it.

In measles we have a most prolific source for conjunctival affections, but by giving the eyes attention in the way of protection from light and the use of some mildly astringent or antiseptic collyrium, little trouble is experienced; but if neglected, the mild conjunctivitis will slowly develop into a chronic state. Retinitis albumenurica may result after or during a severe attack of measles. In scarlatina, especially the severe types, the eye may be involved very seriously, as loss of vision through uraemic poisoning and retinitis albumenurica; in the anginose forms the sac may take on a purulent inflammation and may involve the cornea and entire eye; thrombosis or embolism of the central artery with total loss of vision sometimes occurs in hemorrhagic types a sub-conjunctival hemorrhage frequently occurs, which, however, seldom results seriously to the eye.

In typhoid, typhus, and relapsing fever, iritis, choroiditis, phlyctenular conjunctivitis may result either as a complication or even after the termination of the disease.

In variola a pustule may form on the cornea or conjunctiva and lead to either a serious impairment of vision or a total loss of eyeball from a general panophthalmitis.
Rheumatism or gout may be complicated by iritis, a diffuse scleritis and interstitial keratitis.

Gonorrhoea may give rise to iritis and by indirect infection to a purulent inflammation of the eye, a blennorrhoea from this cause being the most violent and destructive we have to contend with.

After la grippe, cerebro-spinal meningitis, and relapsing fever there may be a suppuration of the vitreous, and great care should be exercised to differentiate between suppuration of the vitreous and glioma, as the appearance of the eye is in many respects similar. In the former, enucleation of the eye is not always necessary, while in glioma an early removal of the eye is imperative, to save, if possible, the patient's life.

Cerebro-spinal sclerosis may cause impaired vision (amblyopia), double vision, (diplopia); oscillation of the eyeballs (nystagmus) is very frequent in this disease and has much diagnostic importance.

Paralysis of the third cranial nerve, the motor oculi, may give rise to a drooping of the upper lid (ptosis), diverging strabismus, protrusion of the eyeball and dilatation of the pupil, the effect corresponding to the several branches of the third pair of nerves. Paralysis of this nerve may be produced by an injury in the neighborhood of the eye, by the action of cold and over use, or it may be a forerunner of grave cerebral lesions, hemiplegia or convulsions. It is well to note that if ptosis exists without strabismus or dilatation of the pupil, it is probably a peripheral rather than a central paralysis, and is a paralysis of the superior branch of the nerve. Again, if the inferior branch is involved alone, we will have simply strabismus and dilatation of the pupil.

Paralysis of the fourth nerve produces less marked symptoms than those of the third nerve. The movement
of the eyeball in the orbit is not much impaired, but there is double vision. We find paralysis of this nerve in some cases of syphilis. Paralysis of the fifth nerve, especially the intra-cranial portion (ophthalmic) gives rise to a loss of sensibility of the cornea, ulceration of the cornea, and sometimes a suppurative inflammation of the whole eye. Paralysis of the sixth nerve (abducens) may occur in cerebral meningitis, neuritis, and syphilis. Converging strabismus, with no movement of the eyes outward, is the chief symptom of paralysis of this nerve. Paralysis of the motor branch of the seventh, or as it is often called Bell's paralysis, is distinguished by the inability to close the eye or wink, the upper lid is elevated, and the lower depressed, owing to the loss of power over the orbicular muscle. The tears are not diffused over the eyeball as in health, but flow down the face. The paralysis may be monolateral or bilateral. From the constant exposure of the cornea and conjunctiva to wind and dust, conjunctivitis and ulceration of the cornea may result. It may be due to exposure to cold, intra-cranial lesions, or a functional disturbance, the term lagophthalmus being used to denote the eye symptoms.

Chorea, a functional disease of the nervous system, has been demonstrated by Drs. Stevens and A. L. Ranney to be due largely to insufficiency of the recti muscles, complicated perhaps by some error of refraction, and numerous cases have been cured by graduated tenotomies and the proper correction of the error of refraction.

In chronic nephritis disturbances in the vision are quite common. There may be double vision, night blindness or changes within the eye, known as retinitis albumenurica. In the latter we find the optic disk swollen and clouded, and the outlines very indistinct. The retinal veins are tortuous, and white patches are seen in different parts of the
retina. The characteristic appearance is the presence of white dots and radiating white streaks around the macula lutea, as if white paint had been splashed upon the spot with a brush or feather. This is a pathognomonic sign of kidney disease. In chronic as well as acute Bright's disease we may have an uraemic blindness without ophthalmoscopic changes, the loss of vision depending upon some morbid intra-cranial condition. Blindness is usually temporary and may recur.

We should separate the ocular symptoms of chronic types of renal disease from those connected with pregnancy and the exanthemata, for in the latter conditions prognosis is much more favorable for restoration of vision, as in uraemic amaurosis, where there is no ophthalmoscopic sign and there is sudden blindness. Albumenuria may occur in fevers, in the exanthemata, pyaemia, and septicaemia, and give rise to eye symptoms.

In diseases of the brain, cord, and cervical sympathetic, the loss of pupillary light reaction is an important diagnostic point; in multiple sclerosis and locomotor ataxia the Argyll-Robertson pupil is an early symptom. In this form of myosis there is decided contraction of the pupil, which responds feebly, if at all, to light, but actively responds to convergence. For example, place the patient before a window and have him fix his gaze at some distant object, shade his eyes with your hand, and you will note no reaction, i.e., dilatation or contraction; then have him look at your finger at ten inches and there is prompt contraction, whether the eyes be shaded or not.

In all inflammatory affections of the brain and its meninges, in tubercular and cerebro-spinal meningitis, there is marked contraction of the pupil, and when in these cases this contraction gives place to dilatation (miosis) it is a serious prognostic sign. In cerebral ap-
oplexy, in the early stages of intra-ocular tumors situated at the origin of the third nerve or in its course, at the beginning of an hysterical attack or an epileptic attack, the pupil is at first contracted.

Disease of the cervical sympathetic is either irritative or destructive. The eye symptoms of irritation of the cervical sympathetic are dilatation of the pupil, widening of the palpebral fissure, slight protrusion of the globe. Destructive disease of the sympathetic occasions symptoms the converse of these, viz., marked contraction of the pupil which is irresponsive to changes of light or to irritation of the side of the neck and resisting the action of mydriatics.

Mydriasis or dilatation of the pupil may occur after diphtheria as due to a paralysis of the third nerve, in hyperaemia of the cervical portion of the spinal cord, in spinal meningitis, in early stages of new growths in the cervical portion of the cord, in intra-cranial tumors and disease causing high cranial pressure. It may also be present as a premonitory sign of tabes dorsalis. It is frequently seen in chlorotic or anaemic patients after a severe illness; intestinal worms and other intestinal irritation may cause a long continued mydriasis. In this condition there is little, if any, pupillary reaction upon light stimulus; there is no reaction where the mydriasis is complete and the accommodation affected.

In syphilis we have a most prolific cause of eye trouble; it may be secondary or hereditary; it may involve any or all of the structures of the eye. The consequences of syphilis in the secondary or tertiary stage the physician frequently encounters, and the ophthalmoscopic changes are such as to furnish very useful information; therefore a knowledge of these changes is of great importance as an aid in diagnosing and treating a certain class of cases.
where too close inquiry into the history of the patient might reveal a condition of affairs which, for the peace of mind of the patient, would be better kept from him.

The iris is perhaps the part of the eye most frequently involved, and iritis may occur during the second or third stage of the disease, and no doubt but what many of the idiopathic cases of iritis are dependent upon constitutional syphilis. Next to the iris the choroid is affected more than any other part of the eye; the extent of the disease may vary, and when confined to the peripheral portion vision may be only slightly impaired. Choroiditis may exist in only one or both eyes. The retina and vitreous are less frequently involved; when they are the sight is much impaired. Neuritis and atrophy of the disk may occur as secondary to syphilitic brain disease. In hereditary syphilis the most frequent eye disease is that of interstitial keratitis, although a choroiditis and retinitis sometimes occur. In gout we may find a hemorrhagic retinitis, as first noted by Hutchinson. He believes the cause to be partial thrombosis of the central retinal vein, as the vision is frequently only temporarily impaired.

Retro-bulbar neuritis may also occur in young persons whom there is reason to believe may have inherited gout. In these cases there is no sign of inflammation to be seen within the eye, yet atrophy of the disk slowly supervenes. In chronic alcoholism and tobacco poisoning we frequently have an impairment of the vision known as toxic amblyopia. The failure of sight comes gradually, and usually involves both eyes equally, with no headache or cerebral symptoms. The characteristic symptom is the defect in the central field of vision, and is known as central scotoma, and may embrace only a small portion of the visual field, or may be extensive; there is not total loss of sight, but a dimness, with more or less failure of
sight for certain colors, as green and red. There may be
no ophthalmoscopic signs, or we may find a slight conges-
tion of the disk or slight papillitis, with perhaps small
hemorrhagic spots surrounding the disk. Prognosis is
usually good, if the cause be removed; atrophy of the
disk will supervene if the patient's habits cannot be
controlled.

In chlorosis and progressive pernicious anaemia we
find occurring optic neuritis and subretinal hemorrhages.
The ophthalmoscope shows in the earlier stages a pecu-
liar pallor of the fundus, and in marked cases this pallor
is very striking; the veins are broad and pale, the arte-
ries smaller than normal. A patient suffering from anaemia
will complain of headache, eyes easily fatigued, and
inability to use the eyes with comfort. In leucocythae-
mia the change in blood being so marked the ophthal-
moscopic picture of the fundus is remarkably plain, the
retinal and choroidal vessels are pale, the tint of the
choroid is of an orange yellow, especially marked in pa-
tients with small amount of pigment; the retinal veins
are pale and tortuous, the arteries are small and more of
an orange than red; there may be effusion beneath the
retina, but the tendency to hemorrhage frequently causes
extravasations of blood into the retina surrounding the
disk. Extravasation may take place in the substance of
the papilla, or there may be hemorrhage into the vitreous.
We also find quite commonly white or yellowish spots in
the periphery or around the macula lutea, which are sup-
posed to be leucocytes similar to those of the blood.

Diphtheria may be followed by a paralysis or paresis
of accommodation. The pupil is not necessarily involved
unless the third nerve is implicated. The recti muscles
may be involved by a paresis or paralysis giving rise to
double vision or strabismus. Serious complications may arise, as neuritis, which may be followed by atrophy of the disk.

In malaria we may have a form of keratitis, called malarial keratitis. It is usually of the epithelial and anterior layers of the cornea, although ulceration and suppuration may occur. It is distinguished from the ordinary forms by a blunted sensibility of the cornea together with more or less history of chronic malaria.

Herpes zoster ophthalmicus is a form of herpes zoster which may involve the cornea and conjunctiva and lead to ulceration, iritis, or even irido-cyclitis. The vesicles may occur anywhere along the branches of the fifth nerve; the favorite site appears to be along the supra-orbital nerve. There is intense pain along the nerve, around the lachrymal sac, down the side of the nose, and extending even to the vertex. The skin becomes red and swollen and tender to the touch; finally small vesicles make their appearance, and are in line with the course of the nerve. It is before the vesicles form that it may be taken for erysipelas, from which it can be distinguished by the intense neuralgic pains which always accompany herpes. After debilitating diseases, as scarlet fever, typhoid, relapsing fever, and other exhausting diseases, we may have occurring a disease of the cornea. The most conspicuous symptom is the infiltration of the cornea, either in part or in whole. It rapidly involves the entire cornea in a yellow slough; one eye or both may be involved; sight is invariably lost. The disease is called keratitis-malacia.

Interstitial keratitis may occur in syphilitic (inherited), rheumatic, gouty, tubercular, and scrofulous subjects. There is first a haziness of the cornea either at the margin or center; it may be circumscribed, but usually extends entirely across the cornea. There may be small spots of
deeper infiltration scattered over the cornea; there is often circum-corneal injection, increased lachrymation, and photophobia. Iritis may occur as a complication. Duration in spite of treatment is from a few weeks to a year. Prognosis is generally favorable.

The cause of iritis may be local or constitutional; of the latter syphilis, either secondary, tertiary, or hereditary causes perhaps 60 per cent, while rheumatism and gout are next as factors in causing this disease. We find it also occurring in gonorrhea, malaria, variola tuberculosis, and diabetes mellitus; hence treatment must not be limited to local applications, but vigorous internal medication directed to that which from inquiry leads us to suspect is the etiological factor. We may have a form of choroiditis known as choroiditis metastatica, which is due to some distant malady, as cerebro-spinal meningitis, puerperal fever, typhoid, scarlatina, erysipelas, or mumps.

The iris and ciliary bodies are frequently involved, although often no outward sign is seen, and attention is called to the eye only by discovery of sudden blindness. All cases of choroiditis metastatica are due to embolic origin, and pathological investigations have proven that the vessels are plugged with micro-organisms.
MENTAL FIXATION INFLUENCED BY THE RECTI MUSCLES OF THE EYES.

By M. H. Garten, M.D., Lincoln.

This being a school town, having more than three thousand students in attendance at the various institutions, who come from all the walks of life in this nervous western region, we get the young man and woman who know just how many drops of human sweat fill the measure of a dollar and just how many dollars there are between them and the coveted education. These lose no time in frivolity, but devote themselves to unceasing labor, and it is a labor that requires the full capacity of normal eye-power at near work. This means that the internal and inferior recti muscles must hold the eyes at convergence so long as the near print of work is followed, thereby keeping them under fixed strain for hours at a time during the entire school year. The result in many cases is that they seek the aid of an oculist, saying, "My eyes give me a great deal of trouble, and it is hard work to fill my hours."

These people, under examination, often describe double images, in many instances amounting to a decided squint. Other cases do not observe double images with the rod or colored glass test, but are unable to see a single image through a prism of a few degrees in strength, demonstrating the weakened condition of the ocular muscles. Yet their ability to hold the eyes in line under ordinary conditions is at the expense of great effort.

Natural philosophy teaches us that "nature abhors a vacuum." Just as much, do I think, the visual centers abhor double images. And under the reign of weakened
recti muscles these brain centers stand sentry, keeping the eyes in line, until the weakened muscle gives up the fight and permits its antagonist to drag it away. Then the brain begins the lesson of teaching itself to ignore the image seen with the eye rendered truant.

Experience in treating those suffering with muscular insufficiency of the recti muscles of the eyes has led to one observation which I have not seen published, neither have I heard it discussed save in the cases where I have spoken of it to my brother practitioners. While this subject is new to me, it may be an old one to many of the members of this society. The subject, "Mental Fixation Influenced by the Recti Muscles of the Eyes" has been chosen because it is a digest of this entire paper. A study of fifty-seven cases of muscular insufficiency has convinced me that the ability of the patient to fix the mind upon a subject is below normal; that a greater amount of time must be employed to accomplish a given amount of brain work; that a page may be honestly read, every word and sentence seen; that the mind has not fixed any of the subject matter; that it has wandered from the subject and is following some other thought; that mental work becomes drudgery, and studies, which were a former source of pleasure, and were fixed upon the mind with ease, are only prepared for imperfect recitation after much labor and worry, and that a restoration of the weakened muscle to its normal strength restores the former mental grasp.

So positive have I become that this condition exists that I unhesitatingly say to a patient, after detecting the weakened muscles, "I will now tell you something that you have kept a secret. You cannot take up a book and read a page and keep the sense of it. You find your mind following some other train of thought after reading
a few lines.” Very rarely is a negative answer given. Out of fifty-seven cases I have had but two, one of whom corrected his answer after a week’s treatment, saying, “I never was in a position to appreciate the question until now. My school work is much easier done.” Upon being informed that the mental defect is the result of muscular insufficiency, the usual reply is: “I am glad to hear that. I was afraid my mind was failing. To hear you make that statement is a great relief to me. I have worried greatly over my mental defect, and feared it might be the beginning of some serious brain disease.”

The statement that restoration of the weakened muscles to their normal strength restores the former mental grasp, or fixation of subject-matter by the mind, is clearly set out in a number of letters from former patients, whom I have asked to express in their own language the results of treatment for this difficulty. I will only encroach upon your time by quoting three of them, they being a fair sample of the rest:

The first one is from a teacher, a lady, aged twenty-eight. She says: “In June, 1896, my eyes first began to give me serious trouble. They pained me quite a little, but I suffered most inconvenience from the fact that in reading or in school work, which I was obliged to do, it seemed necessary for me to make a tremendous effort in order to grasp the thought, and after a half hour’s work I would feel completely fatigued and unable to do more. This trouble continued during the summer. I did very little brain work, simply because it tired me to make the effort necessary to keep the line of thought. I even gave up light reading; it was wearisome to read anything, and unless I made great exertion I could not remember the beginning of an article when I reached its close. The rest of the summer benefited my eyes, and when school
began in September I found I could work with better results and less discomfort than in June, but a constant use of my eyes soon brought a return of the old difficulty. Since my eyes have been treated for the strengthening of the muscles I find I can work with greater ease, and do not experience the fatigue above referred to.

"A few weeks ago, when I was exceedingly busy and had neglected the treatment for the muscles for about three weeks, I found myself suffering from the brain fatigue I had experienced in the summer. In trying to prepare an astronomy lesson I found myself reading a page over and over and yet not being able to remember when I reached the bottom what I had read at the top. Since resuming treatment this difficulty has been overcome."

The second is from a young man, age twenty-five, a student of the University of Nebraska.

"Lincoln, Neb., April 28, 1897.

"For the last two years I have had difficulty in keeping my mind upon my work, and still greater difficulty in retaining anything I had read. I could not use my eyes for any length of time without tiring. I often visited the city library and read interesting articles from leading magazines, and upon returning home would with great difficulty recall the subject of the article I had just read.

"Three weeks after I first took treatment I noticed a marked change in this condition of affairs. Several times people have entered rooms where I was working without my knowledge of their presence. I am now able to read twice the length of time without tiring, and have no difficulty in retaining what I read. Several times I have remembered with ease, when there was occasion for it, the numbers of pages to which I had referred two days previous."
The last I quote is from a young man of twenty-four, a member of the senior class of the university.

"Lincoln, Neb., April 16, 1897.

"I am pleased to let you know what your treatment has done for me. It has greatly increased my power of concentration; I can now study or read and give my entire attention to it. As a consequence my memory has been greatly improved."

My impression is the constant effort required by the patient to hold the eyes in proper position causes brain fatigue. And if this is the case, it easily accounts for imperfect mental fixation and the inclination of the mind to wander from the subject desired to be fixed and follow some day dream of its own creation. Experience teaches that these patients become day-dreamers as soon as any dry or complex subject-matter is taken under consideration.

The treatment spoken of is that usually resorted to for muscular insufficiency, either prism practice, advancement, or graduated tenotomy. In most cases, the preference is given to the former method. The gratifying results obtained by this procedure, in procuring both mental and physical comfort for the patient, has suggested this paper, with the hope that some thinker along the line of cause and effect may more fully explain to me the reason why weakened ocular muscles make drudgery of systematic thinking.

Since this article was presented to the society a very strange and interesting manifestation has presented itself in the person of the private secretary to a recent candidate for the presidency of the United States. His duties give him the supervision of letters, which often reach 2,500 per day. Under this strain his eyes first gave him trouble about two months since. He was unable to fix
them upon his work for any length of time until a pain would be felt streaking from the left brow backward towards the occipital region. While under treatment he remarked that his head (which was very bald) pained him worst when it was exposed to the light. This I paid little attention to until a few days since, while waiting his turn in my reception room, I noticed he wore a black skull cap. This he still wears, and to-day remarked that he did not know which he would rather give up, the cap or the glasses, saying, "With the break of day I go under my pillow for this cap, and wear it all day and evening. If I do not the light falling upon my head produces intense pain. Day, gas, or electric light produces the same results, and the pain is cut short when the light is shut out."

To-day I presented this case to Dr. H. B. Lowry, of this city, hoping he might throw some light upon this case of light producing obscurity. I mention it thus in detail because it is one of the few cases I have encountered since 1871 that I did not either cure or kill. Consequently it must be out of the ordinary line, and I freely confess my total ignorance of the conditions required wherein light will produce excruciating pain on a bald head.
IMPORTANCE OF EARLY OPERATION IN INTRAOCULAR SARCOMA.

BY D. C. BRYANT, M.D., OMAHA.

In looking over the list of cases of intraocular sarcoma, which have come under my care in the past ten years, I find fifteen in which the history has been recorded to the death of the patient, or to the present time, the patient still living. From the most of these specimens have been preserved showing the size of new growth and conditions of eye-ball at the time of removal. In all but four cases the growth had perforated the walls of the eye-ball, and had attained to some considerable size before an operation was consented to. The histories of these cases are interesting, as they emphasize, as only clinical experience can, the great importance of early operation in this class of cases. Only a brief outline of each will be given here, but enough to show the slowness or rapidity with which a return took place, or death occurred.

CASE I.—Male. Was first seen in the summer of 1887. Diagnosis of sarcoma of left eye was made, and enucleation advised. This was not consented to until a few months afterward, when the eye-ball was removed. In this case the new growth had perforated the posterior wall of the eye-ball, as is plainly shown in preserved specimen. The growth, external to the eye-ball, was small, and not closely connected with the surrounding tissues, consequently operative measures were not carried further than the enucleation of the eye. The hope was indulged in that a good cushion for an artificial eye could be preserved in this case, thus improving the patient's appearance, and
still run little risk of a return of the growth. For four
years our hopes seemed likely to be fulfilled, as during
that time no symptoms of return had become manifest,
but with the beginning of the fifth year a return of the
growth occurred, making its appearance in the soft tis­sues of the orbital cavity. An operation was immedi­ately performed, the orbital cavity being completely evis­cerated, which had the effect of procuring another respite
from the trouble, this time being a period of two years.
Since then it has been found necessary to resort to oper­ative measures at three different times, the last of which
was some six weeks ago, when the floor of the orbital
cavity and the anterior wall of the antrum of Highmore
were removed and a sarcomatous growth removed from
that location. This patient will be able to resume his la­bor again in a week or two, but his constitution is al­ready sadly undermined, and the beginning of the end is
in sight.

Case II.—A young married woman came under my care
about the same time No. I. did. Operation was advised
in this case and consented to immediately. The eye was
enucleated, and the walls found to be intact, the growth
occupying about one-third of the intracocular space.
Specimen No. II. shows the size and location of this growth,
also the apparently normal condition of that portion of
wall of eyeball immediately adjacent to growth. This is
one of the most strongly marked melanotic tumors I have
ever seen, being of inky blackness. This patient has
been under observation, that is, seen occasionally, for ten
years, and has never shown any indications of a return of
her former trouble.

Case III.—A boy aged 3 years was first seen by me
in December, 1888. At this time the tumor had already
perforated the tunics of the eyeball, and there was a large
growth protruding from the temporal side of the eye. The eye was enucleated, and the orbital cavity eviscerated, and yet within three months' time, there was a return of the sarcomatous growth in the orbital cavity, and probably also one in the cranial cavity, as the child died with symptoms of compression on the brain. No autopsy was allowed.

Cases IV., V., and VI. were in patients from 25 to 35 years of age, and in all the growth had perforated and extended beyond the eyeball. In each a return occurred within a year, and all died in less than three years from time of first operation.

Case VII.—A young lady, 23 years of age, was first seen in March, 1890. Sarcoma of right eye was diagnosed, and enucleation advised. After a few days, consent was given, and eyeball was removed. After examination showed an intraocular growth which had not perforated nor even thinned the walls of the eyeball. This patient is alive and well to-day, and up to date, seven years after operation, has shown no symptoms of returning trouble.

Cases VIII., IX., X., and XI. were patients whose ages were 30, 24, 43, and 45 respectively. In each the growth had extended beyond the eyeball, before being operated on, and in each a return occurred in from one to two years, and all died in less than five years after the first operation.

Case XII.—A little girl, 4 years of age, came under my care in May, 1893. A diagnosis of glioma of left eye was made in this case, and enucleation advised. The eye was removed, and microscopical examination did not verify my diagnosis, but showed the tumor to be a very slightly pigmented sarcoma. This patient is a strong healthy little girl to-day, and so far, some four years now, has shown no evidence of further trouble.
Case XIII.—Male, aged 53, consulted me in regard to his right eye in February, 1893. Diagnosis of sarcoma was made, and immediate removal of eye was urged. Some ten days later patient consented to the operation, and the eye was enucleated. The growth in this case, as will be seen from specimen, filled the greater part of intraocular cavity, but had not perforated or thinned the walls of eye-ball to any great extent. Two years after enucleation, a small growth made its appearance in the orbital cavity. The growth, as well as the other contents of the orbital cavity, including the periosteum, were immediately removed. Patient was apparently well and strong for eighteen months after second operation, when his general health began to fail, and his family physician tells me that he is now dying of cancer of the liver.

Case XIV.—A woman, 33 years of age, was first seen October, 1894. In this case the growth had extended beyond the eye-balls, involving not only the soft tissues, but also the bony walls of the orbital cavity. Operation was performed in this case, more for the relief of pain than for the purpose of prolonging life. All the contents of orbital cavity, together with a large portion of bony wall, were removed. Patient died three months later.

Case XV.—Girl, 16 years of age, came under my care November, 1894. Was suffering from tumor of eye-ball, which had already perforated the walls of the eye, and attained to such a size that the hideous appearance compelled her to seek relief by an operation. The entire contents of the orbital cavity were removed, and patient had no further trouble, until nearly two years had elapsed, when the appearance of a new growth necessitated another operation. A third operation was performed in this case during the past winter, at which
time a large amount of diseased bone was removed from walls of orbital cavity. Although this patient recovered from last operation, and her physical condition has considerably improved, her lease of life cannot be very long.

No one can read the histories of these cases without being impressed with the marked difference between the results following the cases operated on early in the progress of the disease and those in which surgical interference was postponed until late in the history of the trouble. Of the eleven operated on, after growth had extended beyond the eye-ball, two only are alive at the present time. Of the four in which the eye-ball was removed early in the history of the disease, all are still alive, though one is reported as being in a dying condition. Of the eleven cases operated on late in the disease all developed a secondary growth, from a few months to a few years after removal of primary tumor. Of the four cases in which enucleation was resorted to before perforation of the walls of eye-ball had taken place, three have shown no symptoms of secondary trouble. In these three cases, ten, seven, and four years respectively have elapsed since operation. It might be urged by some that the four cases were not of as malignant a character, from the standpoint of a pathologist, as the eleven, but this is not true, for nearly all of these growths were examined by an experienced microscopist, and the most of these were found to be of the small, round cell variety. Case No. II. is especially interesting in this respect, as it is not only a small round cell sarcoma, but is also extremely deeply pigmented, such a growth as all pathologists tell us to be of a very malignant nature; yet there has been no return in this case, though ten years have elapsed since removal of eye. The more clinical experience
one has with this class of cases, the more profoundly he will become convinced that the one all-important thing in the management of intraocular sarcoma is an early operation.
SOME REMARKS UPON THE TREATMENT OF CHRONIC SUPPURATION OF THE MIDDLE EAR.

BY F. S. OWEN, M.D., OMAHA.

There is perhaps no disease which more greatly affects the integrity of an important organ, or indeed which more greatly jeopardizes the life of the patient, less considered and more neglected, than that of chronic suppuration of the middle ear.

It is still too largely the proverbial opinion of the laity that a discharge from the ear is a condition which must not be interfered with because of some imagined untoward result which may follow, or which must be patiently endured since it cannot be cured; or again, which should be lightly considered, as the patient will grow out of it, or, at any rate, it will take care of itself in due time if left alone.

Thus, from one or the other of these reasons maintained by the laity, a very considerable proportion of the cases of chronic suppuration of the middle ear go untreated, or are only treated at irregular and long intervals, and then only when the conditions become severe.

Chronic suppuration of the middle ear is a very common disease in children, and a very considerable proportion of the cases seen in adults originated in childhood. As this disease is a destructive process from beginning to end, it goes without saying that the earlier it is treated the more amenable to treatment it will be. Therefore, it is of the utmost importance that this disease in children should be detected, and early and intelligent treatment given. This is equally important in those cases originat-
ing in adult life. Could all such cases receive early and intelligent treatment, our deaf mutes and profoundly deaf would be much fewer in number, and few cases of suppurating ears would continue for the long period of years, or through a life time, as they now too often do, entailing, as they do, not only the suffering and annoyance from this condition, but also the great danger to life. The danger to life from a suppurating ear is not always fully appreciated even by the profession. Greinet and Meier report a mortality of $3\frac{1}{2}$ per cent out of 345 cases of chronic purulent otitis media. These deaths were from brain abscess, sinus phlebitis, subdural abscess, meningitis, etc.

I do not wish to be understood by emphasizing the importance of early treatment, that the treatment of the neglected and old standing cases is any less important. Not only the great majority of these cases could be cured by methodical and persistent treatment, but also the dangers attending them will be reduced to a minimum. The treatment of this disease largely falls to the general practitioner. Comparatively few cases seek the aid of the specialist. The general practitioner should therefore not only fully appreciate the gravity of the disease himself, and should treat it with the same care and intelligence he does a fever or other disease, but it is also his bounden duty to educate the laity to a more perfect understanding of its danger, and a better appreciation of the benefits of treatment.

It is not necessary that the physician be an expert otologist to treat chronic purulent otitis media with a large measure of success. While it is proper and best that he be able to make a speculum examination, yet without being able to do so he will not treat them improperly if he will apply the same principles of drain-
age, asepsis, and topical application that he would for suppuration in any other part of the body, modified and adapted of course to the anatomical and pathological conditions of this particular part.

In the treatment of a suppurating ear perfect drainage should receive first consideration. Without it we can hardly expect any cases to recover, but if we secure it many cases will quickly recover without other treatment. Under the most favorable conditions natural drainage from the ear is very imperfect. We must therefore supplement it by artificial means. The proper use of the syringe best subserves this purpose.

As no other part of the treatment is so important and yet so little appreciated as the use of the syringe, I trust that a few remarks upon this apparently simple operation will not be out of place. It is little better than useless for the patient to attempt to syringe his own ear, as he is often directed to do. This should only be permissible when no other person is available. Whenever possible the surgeon should instruct some other member of the family how to carry out every detail of the process of irrigating the ear.

The selection of the proper syringe is of no little importance. A piston syringe with a straight, blunt tip, and holding from two to three ounces, is preferable for ordinary use, though a soft rubber bulb syringe may be advisable in the case of an infant where, by its struggles, an unskilled hand may do injury to the soft parts by the use of the piston syringe. I would also advise the soft rubber bulb for the use of those who must syringe their own ears, for with this, in their ineffectual attempts to irrigate the ear, they can do no possible harm. It is well in giving instructions to remember that the tip of the syringe should be placed within the meatus, and while it
is held steadily in place the auricle should be drawn up­
wards, backwards, and outwards in adults, downwards, 
backwards, and outwards in infants. The cleansing fluid 
should be driven in with a moderate amount of force to 
displace the discharges from the irregularities of the canal 
and middle ear.

The amount of fluid to be used and the frequency at 
which irrigation should be repeated depend upon the ac­
tivity of the process and the severity of the case. In any 
case it requires not less than six ounces and frequently 
as much as a quart or more to thoroughly remove the dis­
charge. About twelve ounces is perhaps a proper average. 
The process of irrigation should be repeated sufficiently 
often in each case to prevent accumulation of the discharge 
in the canal. In the active and neglected cases this will 
require irrigation to be repeated as often as every two or 
three hours. Two or three hours should be the usual in­
terval for infants. Only in the very mild cases will syr­
ing out the ear twice a day be sufficient. The tem­
perature of the fluid should be about blood heat. Never 
very cold or very hot.

When irrigation is carried out as above directed, at least 
in those cases where the greater part of the membrana 
tympani is absent and there exist no other grave patho­
logical changes in the tympanic cavity to prevent the 
liquid from reaching every nook of the diseased surface, 
the drainage thus secured will be sufficient. But since 
this ideal condition is only met with in a small proportion 
of cases, we must supplement this by other means.

In all cases inflation, either with the Politzer bag or 
by Valsalva’s method, is an important means of freeing 
the middle ear of discharge, and especially is it indis­
pendable in those cases where the perforation is too small 
or unfavorably situated, so that the fluid from the syringe
is prevented from reaching and thoroughly cleansing the cavity of the middle ear. Each time the ear is irrigated with the syringe the physician should inflate it with the Politzer bag or direct the patient to do so by Valsalva's method, two or three times, after which remove the secretion which has by this act been driven from the middle ear and Eustachian tube into the external meatus by further syringing.

In the favorable cases, with the drainage easily maintained, to effect a cure is practically an easy matter. The difficulties to overcome, however, before perfect drainage can be secured in a very considerable portion of neglected cases, is not so simple a matter. Thus the secretions may be retained in the middle ear by the growth of aspergilli in the canal, the development of polypi and granulating tissue in the middle ear, or the formation of a cholesteatoma; or they may be confined by too small perforation in the membrana tympani, or by bands or cicatricial tissue, masses of necrotic tissues, etc., all of which must be removed or relieved before drainage can be secured and a cure reasonably hoped for. To go into the management of these various obstructive lesions, as tempting as the field may be, would take me beyond the object of this paper. In passing I will say, however, that the surgeon should not lightly undertake operative procedures for the relief of these conditions. Unless he is able by speculum examination to ascertain the exact nature of these various conditions, he had better content himself with efforts of maintaining as perfect drainage and asepsis as possible and with the use of such topical applications as may be indicated. By this practical means, sedulously carried out, the graver complications at least will be averted, and not a few of these otherwise hopeless cases will go on to permanent recovery.
It must not be forgotten that the application of the principles of asepsis is as important in the treatment of suppurating process in the ear as elsewhere. First, the water used for daily cleansing the ear, either by the physician or patient, should be rendered aseptic by boiling, or antiseptic by the addition of one or the other of the antiseptics in common use. Of the several antiseptics in use, for cheapness and convenience as well as for effectiveness, either bichloride of mercury or carbolic acid are to be recommended. I prefer the bichloride of mercury, and prescribe it in tablet form, each tablet containing gr. 1.82 of the bichloride which, when dissolved in a pint of water, gives a solution of 1 to 4,000, an efficient strength for antiseptic purposes.

The bichloride solution is not to be recommended for use in children nor in those cases in adults where the fluid finds its way into the throat. Instead of the bichloride solution in these cases I employ a 1 or 2 per cent solution of carbolic acid or a saturated solution of boracic acid.

It is needless to mention that the fluid which has once been injected into the ear should never be re-injected; that the hands, the syringe, and all instruments used should be surgically clean. Indeed, to secure the largest measure of success the most careful antiseptic precaution is necessary. Unfortunately it is not possible to attain this when much of the treatment must be carried out by the patient or some member of his family, but if the surgeon will take the trouble to give practical and careful instructions, a fairly aseptic condition can be maintained.

The next step after thoroughly cleansing with the syringe is to dry the parts carefully with absorbent cotton. This will have to be omitted when the treatment is carried out at home by members of the family. Some anti-
septic medicament is then to be applied. This may be either in fluid or powdered form.

Of the solutions used for this purpose the most efficacious are the alcoholic.

Among them may be mentioned:

1. Boracic acid 8 parts, water and alcohol each 100 parts.
2. Bichloride of mercury 1 part, water and alcohol each 2,000 parts.
3. Carbolic acid 4 parts, water and alcohol each 100 parts.
4. Salicylic acid 4 parts, water and alcohol each 100 parts.

The above are the most useful combinations. Many others of less importance might be added to the list. The ratio of the alcohol to the water may be increased or diminished as deemed necessary.

Of any of these medicaments fifteen to twenty drops should be warmed and instilled into the ear, as a rule, twice a day, after cleansing as above directed. The solution should remain in the ear for at least ten minutes. This is done by directing the patient to recline the head to the opposite side. It will often be found that alcoholic solutions cannot be borne. Especially is this true of the alcoholic solution of the salicylic acid, as pointed out by Politzer. In this case an aqueous solution should be used alone, or one of the antiseptic powders instead. The most useful of these powders are aristol, acetanilid, boracic acid, and iodoform. These powders must be used with some degree of care, especially where the patient is not under close observation. They should never be trusted to the patient's hands, and the surgeon should use just sufficient powder by insufflation to cover the membrane with a thin coating, lest the powder form an
impacted lump in the meatus externa, and dangerous conditions result from the pent-up discharge.

For the past year and a half, in those cases where the membrane is entirely gone or there exists a large perforation, I have employed a powder composed of equal parts of stearate of zinc and finely powdered boracic acid, and have found it very efficient in stopping the discharge.

To promote drainage and to maintain asepsis, strips of iodoform gauze packed into the canal as far as the membrana tympani have been used very largely since Gradinego so strongly recommended this method about two years ago. For obvious reasons this procedure cannot be recommended in those cases where the patient cannot be seen daily. For similar reasons the common custom of wearing a cotton plug in the ear should be strongly interdicted.

In this connection I cannot forbear mentioning the too strong reliance placed by some upon the instillation of a few drops of solution containing peroxide of hydrogen or pyrozone, without the employment of other means to promote asepsis and the healing process. Certainly a canal about an inch in length, full of pus and dried secretions, cannot be rendered aseptic by the careless injection by the patient of a few drops of these medications. Two years ago I discontinued the employment of peroxide of hydrogen in chronic aural suppuration, not only because in my judgment other means were superior in all cases, but also because it was unsuitable and even harmful in many cases.

In the treatment of chronic suppuration of the middle ear the importance of the naso-pharynx as a causative factor of middle ear disease, and a means of continuing the process by supplying constant infection, must not be lost sight of.
The nasal cavity should be carefully searched for disease and if found should receive due attention. This applies specially to obstructive conditions, and of these adenoid vegetations hold first place. Indeed they are responsible for the deafness met with in the majority of all instances, whether in adult life or in childhood, and when found should be summarily dealt with. Treatment of diseased conditions of upper air passages should never be omitted, and if crusts and discharges of pus or muco-pus are present in the nose or naso-pharynx, the most careful antiseptic precaution is necessary in order to secure success in the treatment of all chronic otorrhoeas.

Many other remedies and modes of treatment which are in common use might be mentioned, but to do so would extend this paper beyond the time allotted.

The facts to which I have endeavored to draw particular attention are those which are of special importance, not to the skilled otologist, but to the men who are engaged in general practice. And the treatment which I have endeavored to outline in as clear and concise a manner as possible is offered as the most efficient and practical for those who cannot give this disease special attention.
TWO CASES OF ACROMEGALY.

BY H. GIFFORD, M.D., OMAHA.

Acromegaly is so rare an affection that I have thought the members of the society might be interested in a report of the first cases observed in this section of the country.

I will briefly remind you that in typical cases the disease manifests itself in a slow enlargement of the hands and feet, of the lower jaw, frontal ridges, tongue, lips, nose, ears, and pituitary body. It runs an extremely chronic course and may become stationary, but if it progresses and the patient does not die of some intercurrent affection, a cachexia sets in and death occurs from exhaustion.

My first case was that of Mrs. R., aged 32, a Russian Jewess, who came to me, December 16, 1893, on account of poor vision. I found her to have, in the left eye, an optic neuritis, with vision reduced to counting fingers at one to two feet. The right eye had a rather pale nerve, but the vision was normal. The patient was an undersized woman, about four feet seven inches in height, with the hands, head, and feet of a giantess, a large part of the increase in size being due to hypertrophy of the bones both in length and breadth, but much of it being also due to an increased thickness of the skin and of the subcutaneous tissue, particularly at the outer side of the palmar surfaces, where the soft tissues stood out in an immense roll, both in the hands and feet. The lower jaw, the lower lip, and the nose were all disproportionately large for the large head; the skin of the face was thick and bulged up below the eyes in a firm roll. The tongue and ears were
Case 1.—Pronounced acromegaly.
not much hypertrophied, nor were the supraorbital ridges as marked as in some cases. The thyroid gland could not be felt. The patient stated that she first noticed an increase in the size of her hands and feet seven years ago; five years ago she ceased menstruating, since when the hypertrophy of the extremities has steadily progressed, and the appearance of her face has changed entirely. During the last eleven or twelve years she has had to increase the size of her shoe from No. 3 to No. 8. She has much headache and feels very weak and nervous. The family history is negative, and she has several healthy children. Owing to the disproportionate increase in the soft tissues of the hands and feet, which most text-books distinctly state does not occur in acromegaly, and to the thickness of the skin of the face, I was at first inclined to consider the case one of myxedema, and exhibited it as such at a meeting of the Omaha Medical Society; however, one of the members (Dr. Bridges) suggested that it was more probably acromegaly, and on looking the subject up more thoroughly, I concurred entirely in this opinion.

At first I gave the woman mercury and iodide of potash for her optic neuritis, but upon this, while the neuritis of the left eye improved, the vision of the right eye became reduced to \( \frac{6}{600} \), without any corresponding change in the ophthalmoscopic appearances. On continuing the iodide alone in still larger doses, the vision of the right eye improved rapidly, that of the left slowly, until by March 13, 1894, the vision of the right eye was \( \frac{6}{30} \), that of the left \( \frac{15}{30} \). Meanwhile I had had a glycerine extract of sheep's thyroids prepared, which I determined to use in spite of my decision that the case was acromegaly rather than myxedema, but upon my attempting to use this, subcutaneously, the patient disap-
peared, and I did not see her again for a year. She then made a single visit to my office, and I found her appearance practically the same; both optic nerves showed slight atrophy; the vision was \( \frac{3}{5} \) of each eye. On the whole, she felt better than a year before. She has since left the city.

My second case was that of Peter Claus, aged 23, born in central Russia, but of unmixed German stock. He came to me February 5, 1895, on account of spells of dizziness and headache, which for some reason he attributed to his eyes. I found his eyes to be normal in every respect, but after seeing him a few times, I decided that his case was one of unmistakable, though slightly marked, acromegaly. His height was about five feet ten inches. The whole head was unusually large, but the lower jaw was disproportionately long and broad at the chin; above the eyebrows and between them there was a very prominent ridge, apparently entirely bony. Questioning brought out the fact that he began having the spells of dizziness three years before, and that he noticed the growth of the ridge over the eyes about the same time. For the last two years has noticed an undue growth of the lower jaw. Has not been much troubled with headache till within a few weeks. The fingers, especially of the right hand, are decidedly larger, both in length and thickness, than normal, but, as in the preceding case, they are not larger at the tips than elsewhere. The soft tissues of the outer side of the palmer surface of the feet seem somewhat hypertrophied and the ears are rather large. Other signs of acromegaly are wanting.

This man was given Armour's thyroid tablets, and disappeared after taking them a few days. This spring, however, I hunted him up and learned that he had continued the tablets for about two weeks, since when he has
Case II.—Moderate acromegaly.
had practically no headache, and his dizzy spells have been much less frequent. He considers himself practically well. The appearance of his face and hands is, apparently, unchanged. His eyes, visual acuity, and fields of vision are entirely normal.

This case is interesting on account of its slightly marked character. I have no doubt that many such go unrecognized, the individuals simply being accounted rather unusual-looking.

It may seem strange that I should have given the question of myxoedema any consideration whatever in so well marked a case of acromegaly as Case I. In this I was misled by the distinct statements of the books that the soft tissues of the hands and feet are not disproportionately hypertrophied in acromegaly; also by the statement that the fingers tend to be larger at the ends. Mrs. R.'s hands and feet showed a very markedly disproportionate thickening of the palms and soles, and the fingers tapered decidedly at the points. A number of writers have noted an analogy between acromegaly and myxoedema, and when this case was presented to the Omaha Medical Society the only member present who had ever seen a case of myxoedema stated that he had recently seen several in the English clinics, and that he considered this case also to be of the same nature. My reasons for deciding against myxoedema, aside from the evident bony hypertrophy, to which I had not at first given sufficient weight, were that, while the skin of the face and extremities was decidedly thickened, it was not particularly harsh, and the skin on the rest of the body was practically normal; nor was there any of the supraclavicular thickening which is characteristic of myxoedema. With regard to the use of the thyroid tissue in the treatment of acromegaly, while all the modern text-books that I have consulted state
that no treatment is of any avail, and it is not to be expected that anything will relieve the bony deformity, a number of cases have been reported in which the subjective symptoms, as in Case II., have been much improved by its use. And while, from the almost constant involvement of the pituitary body in the disease, the use of preparations of the latter gland would seem to promise more than the thyroid substance, a case has been reported by Caton (Lancet, February 9, 1895) in which pituitary tablets were given for some time with doubtful results, while, when the thyroid tablets were added to these, the improvement was marked and rapid. For the present, it is uncertain whether thyroid, pituitary, or thymus substance is most useful. I did not attempt in either of my cases to ascertain the size of the thymus gland, which Erb says is enlarged in acromegaly.

With regard to the eye symptoms, which I have purposely slighted, in order not to weary a non-occulistic audience, the occurrence of optic neuritis in acromegaly is not mentioned in any general text-book that I have seen, but on consulting the monograph of Hertel (Archiv f. Ophthalmologie, XLI., 1) I find that it has been reported in a number of cases. In Case I. the visual fields at no time showed any tendency toward the hemianopic type which has so often been noted. This defect of vision is in all probability due in most cases to pressure exerted by the hypertrophied hypophysis; but that this pressure, as almost universally stated, is exerted upon the posterior border of the optic chiasma is certainly incorrect. Zander has recently pointed out (Vereins-Beilage der Deutsche Med. Wochenschrift, 1897, III., p. 13) that the hypophysis generally lies wholly or partly in front, not behind the chiasma, and its anterior part is so much nearer the optic nerves than its posterior part is to-
the chiasma (on account of the nerves, chiasma, and tracts slanting upward posteriorly), that with a uniform enlargement of the gland the nerves in front of the chiasma would almost always be pressed upon sooner than the chiasma itself.

Another point worth noting is that, in spite of the gloomy prospect for good vision which Case I. at one time presented, after more than a year, the sight was $\frac{3}{4}$ with each eye, and I have heard since that it continues to be good. Current accounts would lead one to expect progressive optic nerve atrophy, ending in blindness, in all cases where serious disturbance of the sight has set in.
MATERIA MEDICA AND THERAPEUTICS.

BY W. F. MILBOY, M.D., OMAHA.

A moment's consideration will suggest to your minds numerous agencies through whose means new remedies are continually being brought to the attention of the medical profession. The study of plant life, the researches of the chemist, the laborious studies of the biologist and bacteriologist, the researches of enthusiastic practitioners of medicine, the enterprise of manufacturing pharmacists and owners of proprietary remedies, and sometimes by pure accident, new remedies and new applications of remedies long in use are brought forward.

A categorical narration of a list of such remedies as have succeeded in gaining the attention of some medical journalist during the year, together with a mention of their physiological properties so far as known or guessed at, and their supposed good and bad characteristics, is the classical conception of the paper that I should present to-day. This has, I believe, by unanimous consent been voted a bore. Every practitioner who reads medical journals (and where is there to be found one who does not) is already familiar with these things, so what excuse can be offered for a rehash of them on an occasion like this.

I will therefore not molest the shades of departed custom, but will ask your attention for a few moments to some general considerations pertaining to the subject of materia medica and therapeutics.

All enlightened physicians aim to use the materia medica scientifically. The administration of medicines, to be carried on in a scientific manner, must be given with an intelligent idea of the pathological conditions ex-
isting in the patient, the indications to be met by remedies, and an understanding of the action of the drugs when introduced into the human circulation. It is evident that inasmuch as we deal with living human beings, absolute exactness in our information upon these matters is not within our reach, and we cannot hope to see the practice of internal medicine become an exact science. Nevertheless, using the term with some degree of freedom, the term scientific medicine is not improper. The accumulated knowledge which we have is the result of a long period of observation, close and oft-repeated. Much of it has never been absolutely demonstrated and never will be; but, by a process of inductive reasoning, our alleged facts approach so near to absolute certainty that, to all intents and purposes, they may be so considered.

The human mind has its limitations. In the case of most of us these limitations are reached before we have progressed very far, and it is to our own advantage and that of those who have to do with us as physicians that we clearly recognize this fact. In my opinion, true progress in our profession is seriously handicapped by the attempt on the part of physicians to use in their practice too great a number of drugs. "He doeth much that doeth a thing well," was one of the wise epigrams of that wonderful man, Thomas à Kempis. To administer drugs well implies a comprehensive knowledge of their actions in physiological and pathological conditions; in doses of every kind as to size and frequency; in every menstruum, in all but infinite variety of combinations with other drugs, in children and adults—in short, under all conceivable circumstances. Gentlemen, only the mind of a Bacon, at the end of a life a century in duration, occupied in infinite toil, could so master the drugs of the United States Pharmacopoeia. How, then, can an under-
graduate in a medical school, or one of us practitioners, more or less busy with our efforts to earn something to eat, hope to perform such a labor of Hercules. And this takes no account of the long list of new remedies which is perpetually importuning for our attention.

If I were called upon to instruct a class in a medical college upon the subject of materia medica and therapeutics, four-fifths of the drugs listed in the United States Pharmacopoeia would be eliminated from the course. I would select for them a limited number of remedies, and my efforts and theirs would be devoted to securing in their minds a real understanding of these comparatively few drugs. The same in substance I hold to be practically true of the physician. Success in the sense of a Kempis, in the use of remedies, lies in the direction of strict limitation of the number to be used.

I would not have the search for new and improved methods of treatment abandoned. There are those so situated that they can carry on this work advantageously. To permit it to cease would mean stagnation. But for the man in general practice to add to his every-day armamentarium every new thing that is suggested is not to promote substantial progress.

A very successful English writer, when he abandoned the practice of medicine for literature, gave as one of his reasons for such a course, that in prescribing for his patients he never knew whether his remedies did any good, or whether the improvement which he saw was wholly the result of the vis medicatrix naturae. I have no sympathy with those who decry the value of drugs properly administered, or their efficacy in relieving diseased conditions. This savors of affectation or of ignorance. No careful observer, of any considerable experience, can for a moment doubt their value.
other hand, not a few practitioners there are who, for the cure of diseased conditions, pin their faith and reputation unreservedly to drugs. Here again is error. We of the present day more than ever before, if we are abreast with our own time, must include in our materia medica therapeutic measures which do not consist in the exhibition of pills and powders, but which are purely hygienic. Doubtless everyone whom I address has observed in the current medical literature of recent years frequent mention of the conspicuous falling off of business among physicians. This complaint has come, not alone from our own Nebraska, but from every part of the Union, and possibly even more from abroad. There are, I apprehend, a number of causes contributing to this end, but chief among them, and more potent than all others combined, is the improvement in sanitary conditions which everywhere prevails. The possibilities in this direction are by no means exhausted. Dr. Osler makes the assertion that the legal authorities of Maryland, acting under the advice of the medical profession, could stamp out of existence in that state typhoid fever in three years. Such measures as these have in view not the cure but the prevention of disease. It is likewise true that in the cure of disease sanitary measures should hold a conspicuous place. In comparison with the benefit to which they are entitled from the services of their physician, those patients will fare but ill whose doctor ignores this resource. I am inclined to believe that here is a truth which stands in need of urgent and oft-repeated iteration in the ears of our profession.

There is a certain type of physician in whose mind the most conspicuous thought suggested by allusion to medical practice is drugs and doses. These men are attentive students of the cheap medical journals that daily, as sam-
ple copies, come to our offices and pass swiftly to the waste basket. These publications contain page after page of ready-made formulae for the cure of every imaginable ailment. That they are in demand is evidenced by the great circulation they enjoy. It may be true that this cart-before-the-horse conception originated during the formative period of their medical ideas, in the medical college instruction which these doctors received. Beyond question, it is true that if all physicians could become possessed with the fundamental idea that a diagnosis, accurate, definite, thoroughly worked out in all its details and to all its conclusions, is the only foundation upon which it is possible to base the scientific administration of remedies, there would be an end, in large measure, to the empyric use of second-hand formulae; a tremendous advance in professional excellence would be accomplished, and the science of materia medica and therapeutics would assume its proper place among the sciences with which our work is concerned, as the great weapon with which to prosecute our campaign against disease.
RECENT PATHOLOGICAL RESEARCH.

BY A. D. WILKINSON, M.D., LINCOLN.

The practitioner who is not content with external evidences alone, but who aims to get down to particular analytical findings, is also the one who awakens to the fact that human reason, when divorced from the correcting influence of intelligent experiments, is always pretty sure to go astray.

We doubtless are prone to carry our theories too far at times and make them explain too much perhaps; but you know that astronomy, previous to the promulgation of Kepler's Laws and the formulation of the Newtonian hypothesis of gravitation, was in a state of chaos, and its votaries were hopelessly divided by conflicting theories. But the moment Newton promulgated his theorem a revolution began which eventually involved the whole scientific world, and astronomy was made an exact science. What the Newtonian hypothesis did for astronomy, the atomic theory has done for chemistry. It enables one in that science to practice it with a certainty of result. He knows that if he can combine hydrogen and oxygen in the proportions of two atoms of the former to one of the latter, water will be the result. The change which has come over scientific medicine can be fitly compared with the revolution of ideas relative to the other sciences. Vesalius and Paracelsus were the pioneers in the liberation of medical thought from the dogmas that had prevailed for 2,000 years. Virchow says their service in the reformation of medical science is only paralleled by that of Luther and Calvin in religion. Their work has been supplemented by new conceptions and theories down
through a Galen, a Harvey, and a Malpighi. Then Kircher and Linnaeus, with their far-seeing mental vision, saw a spark of light emanating from the discoveries of Leeuwenhoek; Schwann, of Berlin, sixty years ago, caused that spark to glow with more splendor by his discovery of the yeast plant. Then the genius of Pasteur began to rise above the horizon and demolished the chemical theory of fermentation and putrefaction, followed by a multitude of microscopists, who investigated this newly discovered world of plant life. The spark still being fanned into a flame was caught up by Lister, who drove from the world the barbarous darkness of ancient surgery, and the sacrifice of human life in surgical wards of hospitals and on the battlefield was stopped at once.

From this time on the conviction began to grow that bacteria were the causes of most of the diseases that plants, animals, and men suffer from. Davaine soon discovered the bacillus of anthrax. Eberth followed with the bacillus of typhoid. In fact, a multitude of bacteria that caused diseases in animals were found and studied. Koch soon came forward with the bacillus of tuberculosis. Klebs and Loeffler found the bacillus of diphtheria. Koch added to the list the comma bacillus of Asiatic cholera, and lately Kitasato and Yersin have given us the bacillus of plague. You will perceive that we have been living in the age of bacteria; but, as in the chemical age, the pendulum is swinging away from us, and we are about to enter a new age, and instead of the explanation being a botanical one it is to be supplemented by a zoological one, for minute microscopic animals or protozoa are the mischief makers. Small-pox, scarlet fever, whooping-cough, and our present epidemic—measles—have defied the most careful scrutiny of the bacteriologist and his methods, but
there are now strong probabilities in the near future of our knowing something about them.

The last decade has been full of the work of the toxins of Brieger and the ptomaines of Selmi, but it has still to be proven that there may not be some infectious diseases in which bacteria play no part, for it is remarkable that some of the diseases in which the subject of artificial immunity has been studied by Pasteur are diseases in which no bacterial parasite has yet been forthcoming.

The further development of the study which has led, through Behring and others, to the system of serum therapy has been thought to point to a return to humoral pathology; but the analogy with putrid infection shows that it is not the blood alone, but the tissues that are influenced by anti-toxins. And the study of tissue juices—thyroid and pancreas—points in the same direction. We are in the midst of researches which, under new methods and aids, promise great results.

It is my province, as chairman of the section of pathology and hystology, to review or rehearse some of the more important events in this great department of medical science—briefly, for I must not presume too much on your patience. The great question as to the cause of cirrhosis of the liver still remains as one of the unsolved problems. However, it still retains its interest for the investigator and clinician alike. In Virchow's Archiv (vol. 145, part 3), Scogliosi discusses this question at great length, especially in its relation to alcohol and the acute infectious diseases. The experimenter concludes that alcohol, or similar irritating drinks, may produce a cirrhosis when the liver is weak congenitally, but that infection is the real cause of cirrhosis. The results of his experiments are tabulated as follows: first, alcohol influences the normal liver scarcely at all; second, the lower
animals react variously to different infectious agents, but in rabbits especially, cirrhosis and incipient interstitial hepatitis can be caused thereby; lastly, if the process has not advanced far the lesion may heal.

A very excellent paper, by Von Leyden and Schandium, seems to throw some light upon the much discussed question—the etiology of carcinoma. These investigators describe two instances of the occurrence of amebae in ascitic fluid. The amebae were large, pale, round or polymorphous cells, larger than leucocytes and filled with pigment and fat drops. Both patients suffered from diffuse peritoneal carcinosis. Although highly suggestive of the possibility of these being parasites and bearing a causal relation to carcinoma, the authors withhold for the present positive judgment.

It is interesting to know to what extent tubercle bacilli can invade the alimentary tract and yet not produce any lesions. R. B. Shaw reports a case in the Montreal Medical Journal for January of the present year in which a tubercular patient suffered from diarrhea for over six months. The stools consisted largely of a flaky material, and in this the tubercle bacilli were found in moderate numbers. The clinical signs and symptoms showed little beyond emaciation, local evidences of tubercular pulmonary infiltration, and nephritis. Bacilli were found in the sputum. At the autopsy the bacilli were found in the intestines and in the feces, but there were found no tubercular lesions. There were pigmented scars in the ileum, suggestive of healed typhoid ulcers, but no evidence of tubercular lesion.

The diseases of the pancreas are usually obscure, and also not very common. They are at times very troublesome when they do occur, and for this reason any point that aids in their detection is very welcome. Dr.
A. McPhedian, of Toronto, describes a case of hemorrhagic pancreatitis in a boy of nine months. This seems to be the youngest case yet reported. The disease usually is found in adult life, about forty-five years of age. The present case had been troubled with colic since the third month. The bowels always required something to excite them to act. The feces were soft and yellow. In the ninth month the stools became more liquid and contained a great many small, yellow, fatty-looking particles. The patient suddenly developed symptoms which resembled intussusception, and was operated upon. Nothing was found at the operation to explain the trouble. An accessory lobe of the liver was the supposed intussusception. The child died the following day. The necropsy revealed a hemorrhagic pancreatitis. The middle third of the pancreas and its immediate surroundings were deeply infiltrated with blood. The head and tail showed no changes.

Sadelmon, of Berlin, a fine clinician, saw a case with the following history: an acute affection; severe abdominal pain, followed by coma, closely resembling diabetic coma, namely, obtunded sensorium and unusually forced, deep, and rapid respiration—cyanotic. Urine showed albumin, casts, and five per cent of sugar. The case suggested some acute infection, there being high temperature and no local findings. He diagnosed it acute diabetes and placed it in immediate causal relation with the pancreatic disease. Dr. Benda demonstrated the pancreatic specimen, showing that the organ was altered through its entire extent, forming a large tumor. In its center was a large hemorrhagic infarct, with multiple infarcts scattered here and there throughout the organ. Only a small portion of the pancreatic tissue remained
normal. The parietal peritoneum and the mediastinum showed a large focus of fatty necrosis.

Touching the much mooted question of hereditary tuberculosis, Bolognesi, of Paris, examined the placenta from thirteen tubercular women, and in many instances the organs of the fetus for the tubercle bacilli. One hundred and nineteen guinea pigs and eleven rabbits were inoculated. Of these two guinea pigs inoculated with a placenta from one case, died. From these results he concluded that the inheritance of tuberculosis from the side of the mother is usually a disposition, while the direct transfer of the bacilli occurs but rarely. This latter may take place (1) if there be miliary tuberculosis of the mother, with the bacilli in the blood; (2) if there be placental tuberculosis which has produced such lesions that the passage of the bacilli is no more prevented; (3) if there be uterine tuberculosis, which favors the occurrence of placental tuberculosis; (4) if the amniotic fluid contain bacilli and be swallowed by the fetus.

The troublesome task of absolutely finding the cause of whooping-cough is still not settled. Deichler has observed the protozoa of whooping-cough, but has not been confirmed by others. Others attribute the disease to the presence of a bacillus described by Affonasiew.

Prof. M. Kurloff, Tomsk, Siberia, announces his researches with sputum from patients affected with lung trouble, and finds a characteristic difference in the sputum of children that are affected with whooping-cough.

Weispecker reports, in Zeitschr für Klin. Med., Bd. 30, his results obtained from blood serum in convalescent cases of measles. He states that he used it on four children with measles complicated with pneumonia, at the age of nine months to five years, and one-half with good results.
Drs. Camera, Pestona, and Bettencourt, of the Lisbon Bacteriological Institute, have a very interesting article in the Centralblatt für Bak., etc., in which they were able, on post-mortem examination, to demonstrate the presence of the leper bacillus of Hansen in the medulla of a myelitis. The authors claim in their paper that the assertion of Zambaco Pasha in 1893 will have to be studied more carefully before it can be verified, and that it was not a variation from leprosy.

Drs. J. W. W. Stevens and B. F. Wood, in the Smith Laboratory, London, have discovered a vibrio in the sputum of diphtheritic patients and have succeeded in cultivating the same in plate culture of agar agar; also in serum agar and gelatin. It was also grown in potato and pepton bouillon. It grows more luxuriantly on agar agar. The existence of tonsillar vibrio is not a new feature, but it is worthy of note that this is the first time the pure culture has been obtained.

There is no disease that is more interesting to the general practitioner than that of typhoid fever, and since the great Widal wave has appeared it has exercised an entirely new phase in the practical application of bacteriological work in the study of infectious diseases. It will not be necessary to report the work of the investigators, Gruber, Pfeiffer, and Kole, but refer briefly to that of Widal, who made the first practical application of this method for the diagnosis of typhoid fever. His description of the phenomenon is as follows: “Several bouillon tubes are separately inoculated with the typhoid bacillus and the bacillus coli communis. A few drops of the serum of an animal thoroughly immunized against typhoid infection are added to each of these, and they are then placed in an incubator at 37 degrees C. In four or five hours the tubes containing the bacillus coli communis
begin to become cloudy, while the tubes inoculated with the typhoid bacillus remain almost entirely clear. At the end of twenty-four hours the tubes with the bacillus coli have become intensely cloudy throughout, while those containing the typhoid bacillus remain clear or are but slightly cloudy, the microbes in these tubes having been precipitated as whitish flakes to the bottom. A drop of the culture of the bacillus coli, examined microscopically, shows isolated bacteria, for the most part actively mobile. A drop of the culture of the typhoid bacillus, on the other hand, when examined microscopically, presents only scattered agglomerations of bacteria, which are immobile, deformed, thickened, and agglutinated together. No isolated or mobile bacteria are to be seen. The formation of a precipitate visible to the naked eye, and, microscopically, the agglutination and deformity of the microbes are the characteristics of the phenomenon. He has examined the serum obtained from some six typhoid fever patients on the seventh, twelfth, fifteenth, sixteenth, nineteenth, and twenty-first days of the disease, to determine whether it could be employed for the clinical diagnosis of typhoid fever. Each time he readily obtained undoubted evidences that the serum exerted an immobilizing and agglutinating action on the bacilli in cultures of the typhoid organism. His simplest method of observing this phenomenon is by withdrawing several drops of blood from the end of the finger, under aseptic precautions, and, after the blood has clotted, the serum is separated and added, drop by drop, to a broth culture, in the proportion of one to ten. If the serum has been obtained from a case of typhoid fever a characteristic reaction will be immediately observed. If the blood serum of a person in good health, or one suffering from some disease other than typhoid, few or none of the observances referred to will appear.
Fraenkel, writing later, says that the Widal-Pfeiffer test has proven the independence of the bacillus typhosus, in addition to giving clinicians one of the most valuable methods of differential diagnosis.

The Eberth-Gaffky bacillus of typhoid fever, which has been long denied specific characteristics by many eminent bacteriologists, must now be classed among the specific bacteria, since bacilli typhosi grown upon artificial media are disturbed or destroyed only by serum drawn from typhoid patients, and conversely the serum of typhoid fever patients operates only upon the typhoid bacilli.

The identification of the typhoid bacillus outside of the human body is met with many difficulties. It is usually done by the combined or conjoined methods of Elsner and reaction method of Widal.

Loesener has made a most painstaking study of the literature on this subject, and from his research of 689 articles concludes with the following ten characters, distinctive of typhoid bacillus:

1. The appearance of the superficial colonies in gelatin plates.
2. The very active mobility.
3. The large number of flagella originating from all parts of the bacilli.
4. Discoloration by Gram's method.
5. Growth in media, containing grape milk and cane sugar, with gas formation.
7. Growth in proteid, containing media without generation of indol.
8. Production of acid when grown in whey, but not in excess of 3 per cent as tested by one-tenth normal soda solution.
9. The growth on potato. This should be identical
with that of a known culture of the typhoid bacillus planted simultaneously in parallel streaks upon the same potato.

10. The failure to grow in Maassen’s normal solution with glycerin.

You must have more than one of these characters. When all are present the conclusion is very strong.

I might mention, before leaving this subject, that Kühneau adds a case to the few instances of genuine meningitis typhosa. During the course of the fever there were some meningeal symptoms. The autopsy revealed a thick, widely spread leptomeningitis over the convexity of the brain, with flocculent serum at the base. Pure cultures were obtained, contradicting the statement of Baumgarten that suppurative processes in typhoid are always due to mixed infection.

I will conclude my report by referring to the recent outbreak of the plague in India, because of the universal attention directed to the various manifestations of the disease. Dr. W. Kolle, assistant to Dr. Koch in the Institute for Infectious Diseases in Berlin, gives a very excellent article in the Deutsche Med. Woch. He claims that the bacteria are peculiar and unlike any which appear in the human tissue or diseased conditions of the same, especially among the pathogenic bacteria. He places them in the same class with chicken cholera bacillus; yet the plague bacillus is somewhat shorter. He says it is not difficult to diagnose bubonic plague, because it is often found from a single dried cover preparation from a swollen or suppurating gland. In grave cases the diagnosis can be made with assurance from blood preparation, since the bacilli occur in great numbers in such cases. Kitasato has demonstrated the bacilli from a drop of blood taken from the finger tip of a plague-stricken man.
The streptococci complicate the microscopical examination of the plague bacilli, but since they are not found in many of the typical cases, they are not essential to the etiology of the plague. But, as has been shown in diphtheria, tuberculosis, scarlet fever, typhoid, and other diseases, they play the part of secondary infecting bacteria. The plague bacilli, stained with aniline dyes, are discolored by Gram's fluid, while the streptococci remain unaffected. If it be not possible to make the diagnosis by microscopic picture, then resort to the culture method.

The transmission of the plague to man, according to Yersin and Kitasato, based upon observations made in Hong Kong, occurs chiefly through peripheral infection, and not from the inoculated animal, as some would think. Yersin also announces that another additional source of infection is the dirt and dust in dwellings, through inhalation, and from vermin, bed bugs, or fleas that crawl from plague-sick men or animals. Yersin has come nearer the solution of plague immunity by his animal experimentation than any of the investigators. He has treated twenty-six plague-stricken patients, with two deaths. If these figures are correct, then we have indeed in the serum of the plague-immunized horse a "specific plague curative serum." (Yersin's cases, however, were not diagnosed bacteriologically.)

Hoffkin has given injections similar to those used for cholera, for protection, with good results. He proposes to undertake a series of investigations upon animals for the critical examination of the possibility of active immunization, and hopes to obtain results that cannot be overturned. Man responds to the subcutaneous injection very well, and he has undertaken the investigation in two men, with their consent, the result of which cannot be given at this time.
HYPERTROPHY OF THE LINGUAL TONSIL.

BY S. E. COOK, M.D., LINCOLN.

The isthmus of the fauces is surrounded by a more or less complete ring of lymphoid tissue, a result of the junction, at this point, of the epiblast and hypoblast, in early fetal life. The faucial tonsils form the sides or pillars of the circle; the roof, concealed by the soft palate, is formed by a mass of adenoid vegetations lining the vault of the pharynx, and commonly called Luschka's tonsil; while the masses of glandular tissue occupying the glossoepiglottic fossae form the floor. The latter, collectively, is known as the lingual tonsil. All of these peculiar structures may have an office to fill in the human economy, but if so it is still undetermined, and many deny their connection with any useful function. We do know, however, that they are all at times a source of an infinite amount of discomfort and danger when not in a normal condition.

Some twenty years ago it was suggested by Heymann that morbid symptoms might be produced by hypertrophy of the lymphoid tissue in the fossae at the base of the tongue. Several years later more extended observations resulted in the definite assignment of certain well defined groups of symptoms to this cause. At present hypertrophy of the lingual tonsil is a recognized entity, and possesses its own niche in the archives of laryngological literature.

The histological structure of the lingual tonsil is not essentially different from that of the faucial tonsils. In the latter, however, the lymphoid tissue is concentrated in a circumscribed and well defined mass, while the similar
tissue at the base of the tongue is diffuse and spread out over an extended area, from the papillae circumvallatae to the epiglottis. The base of the tongue is supplied with from 30 to 100 muciparous glands, which keep that portion of the organ well lubricated with their copious secretion. These glands are embedded in a mass of lymphoid follicles, each individual gland standing out more or less prominently, and intimately associated with its neighboring group of follicles. It is readily understood, therefore, how a proliferation in the lymphoid tissue would produce an increase in its connective tissue framework, with resulting pressure and constriction of the glands, and a diminution in their normal copious secretion.

Changes in lymphatic tissue are a peculiarity of child life, while in adults connective tissue changes predominate. In fact the former usually eventuate in the latter, perhaps years afterwards. Hypertrophy of the faucial tonsils is confined almost entirely to childhood; the same is true of the lymphoid tissue in the vault of the pharynx, and we would expect the same rule to be applicable to the lingual tonsil. Such, probably, is the case, but the throat in childhood is much less sensitive than in adult life, and is far more tolerant of interference with its normal structure and functions. Symptomatic disease of the lingual tonsil is practically unknown before puberty. It is an apparent exception to the rule that in the years following puberty there is a gradual atrophy of all these lymphatic structures. The situation of this tissue at a point where it is peculiarly exposed to traumatism and irritation from hot and cold drinks and all the various complex mixtures which make up the modern diet, renders it especially liable to hyperplastic changes. What, in childhood was a simple hypertrophy of the normal lymphoid elements, becomes
in later life a sclerosis, from an increase in the connective tissue elements—the tissue becoming more prominent and distinctly harder. The disease is commoner in females than in males. The symptoms are often so vague, and are so modified by the individual peculiarities and habits of the patient, that the more delicate nervous organization of the female will probably account for the greater frequency with which the disease is met in that sex.

The affection is essentially a chronic one, depending often upon a strumous, rheumatic, or gouty diathesis. In some cases hereditary syphilis appears to be a factor in its development. The exanthems frequently leave as sequelae a tendency to hypertrophy of the lingual, as well as of the faucial, tonsils.

The symptoms, complained of by patients suffering from an enlarged lingual tonsil, are often vague, not easily located, and not constant. The diagnosis can only be made by means of the throat mirror. With the tongue pulled forward and the mirror in position, both fossae between the base of the tongue and the epiglottis are more or less completely filled with the pinkish, rounded, raspberry-like masses of hypertrophic tissue. The epiglottis may be almost completely embedded in this tissue, so that its free movements are impeded. Sometimes the diseased tissue projects over the tip of the epiglottis and conceals it from view, so that, with the tongue pulled forward ad maximum, the probe has to be brought into use to separate the two surfaces. This explains the "empty swallowing" so often complained of. The patient complains of feeling a lump in the throat, but can not locate it with exactness. When the epiglottis is not so seriously interfered with, perhaps only irritated, a pricking sensation is often complained of, and a trouble-
some throat cough is produced. The patient continually
endeavors to clear the throat, although the secretion is
actually diminished in amount from constriction of the
muciparous glands. Purely reflex phenomena are com-
mon. Thus attacks of asthma sometimes occur. Irregu-
lar neuralgic pains are also at times complained of. The
effects on the voice may be marked. It becomes easily
fatigued, so that continuous and prolonged use may be
impossible, or only accomplished by much pain and
effort. In actors, or public speakers or singers, the voice
may suddenly and completely collapse. Hoarseness is
not a feature, unless there be a coexisting laryngeal af-
fection. The voice is uncertain and may be good at times
and at other times weak, and the patient loses confidence
in his ability to endure any prolonged strain of his vocal
organs. From what has been said, it will be seen that the
symptoms caused by an enlarged lingual tonsil may be
almost entirely mechanical, and vary in degree from
mere tickling to actual obstruction, or they may be
purely reflex. The occupation of the patient has much
to do with the importance attached to the various symp-
toms. Any interference with the proper action of the
vocal chords, either direct or indirect, in a singer or pub-
lic speaker, is a matter of vital importance to him. It
is in such classes of patients, therefore, that we are most
frequently called upon for assistance.

Several months ago I was consulted by Miss B., an
actress. For over two years she had filled her part with
difficulty. In ordinary stage conversation she succeeded
fairly well, but when obliged to exert her voice more
than usual, especially in the upper notes, she frequently
partially failed and had once or twice collapsed. She had
lost confidence in the ability of her vocal organs to en-
dure any severe or prolonged exertion. There was
entire absence of hoarseness or anything denoting laryngeal trouble, but a slight throat cough was always present. She complained of a lump in her throat, with at times pain in the region of the epiglottis. She had had frequent attacks of dyspnoea. There was no disease of the upper air passages, nor of the larynx. Examination with the throat mirror showed the epiglottis almost completely hidden and deeply imbedded in an enormous mass of hypertrophic tissue projecting from the base of the tongue. It was with difficulty that I introduced a probe between the two organs and separated them. With the cold wire snare and guillotine I removed a considerable portion of the superfluous tissue, so as to free the epiglottis. Relief was immediate.

The only treatment worthy of consideration is removal with some cutting instrument or ecraseur. With a 20 per cent solution of cocaine, the parts may be rendered so insensible that considerable tissue can be removed with almost no pain, if done quickly. I prefer the guillotine, made by Meyrowitz, of New York. With the throat mirror in place, the opened instrument can be accurately adjusted over the mass at leisure, and cut off before the patient is aware of it. The cold-wire snare is not so rapid, and is far more painful, but it has the advantage that it is not followed by bleeding. In patients approaching middle life, I would advise its use on this account. The electro-cautery snare may be used, but the risk of touching the epiglottis is great. It is, besides, exceedingly painful, and leaves a very sore throat. Chromic acid has also been used to lessen the mass, but its use in this locality is inefficient and very dangerous.

Constitutional treatment is of little avail. For the relief of the local symptoms, before operation, I sometimes prescribe a lozenge with a base of gelatine and enough
extract of licorice to mask the taste of the other ingredients, which are: potass. chlor. gr. ii, extract lactucae, gr. jss, and ol. eucalypti, gr. ii. This lozenge may also be used to relieve the soreness after operation.
ACUTE PURULENT INFLAMMATION OF THE MIDDLE EAR.

BY A. N. LOPER, M.D., COLLEGE VIEW.

Acute inflammation of the middle ear is a malady which is often both interesting and painful to both patient and physician. Who of us has not with reluctance answered to a call in the middle of the night near the ides of March, when earth and air were chilled and damp with the breath of the contest between the icy grasp of winter and the inevitable advance of spring, and found a little patient suffering to distraction with pain so excruciating and intolerable in character that it would make the most stolid nature in the profession wince and long for an analgesic.

And how many of us have seen persons in middle life suffering with a chronic and very offensive purulent otorrhoea, the result of some one's neglect in an acute inflammation a dozen years before? With an inerasable recollection of some of these cases in your minds, I will ask you to review with me some of the characteristics and treatment of acute purulent inflammation of the middle ear.

It is claimed that the inflammation usually begins in the attic. This portion of the tympanum, with its reduplication of mucous membrane, its large amount of connective tissue, and ligamentous bands, affords a very favorable site for the development of a pyogenic inflammation. This little delicate drum cavity, with its large amount of bony limitations and its peculiarly delicate ossicles and fine nerve filaments contained within its walls, furnishes conditions in which an inflammation may do a great deal of mischief in a short time, and also continue its effects for an indefinitely long period.
A purulent inflammation may follow an acute catarrhal otitis media, or it may develop suddenly and without any previous catarrhal symptoms. We have reasons for concluding that the infection usually takes place through the eustachian tube. Among the common causes may be mentioned the eruptive fevers of childhood, diphtheria, la grippe, tonsilitis, pharyngitis, poisons developed from an enfeebled and foul stomach, adenoid growths, the passage of irritating fluids out of the eustachian tube, etc. Sudden changes of temperature, exposure to wet and cold, excessive diving while bathing in cold water, may be mentioned also as determining causes.

The onset is usually sudden; the patient complains of excruciating pains in the ear, tinnitus, vertigo, impaired hearing, etc. There is usually a marked rise of temperature, and not infrequently delirium and convulsions. In patients above four or five years, the diagnosis is usually easily made from the subjective symptoms. However, in order to proceed intelligently, it is necessary in all cases to make a complete and careful examination of the external auditory canal, the membrane of the tympanum, and the posterior auricular region. In the adult this is easily done, except in cases complicated by inflammation of the external canal. In nervous, frightened, or ill-tempered children, however, there may be a greater draw made on the patience, tact, and perseverance of the physician. The naturally narrow canal may be still further occluded by swelling, and the debris of an exfoliative dermatitis. As in this procedure each case may require individual tact and originality on the part of the operator, I will not attempt to go into detail in explaining methods.

The prognosis in ordinary cases is generally favorable if seen early and properly managed. However, in very young and delicate children, it is not uncommon to have
the case complicated by a meningitis from which a fatal termination results. Some statistics give as high as $2\frac{1}{2}$ per cent of acute inflammation of the middle ear resulting in this way from intracranial complications. With a proper appreciation of this danger in view, we cannot lightly and carelessly pass by a case of acute inflammation until we know that the destructive process is checked in its incipiency, or that there is free drainage for whatever liquid may be causing the pressure and pain in this portion of the auditory apparatus.

When called to see a patient suffering in this way, it is expected, of course, that the doctor will do something immediately to relieve the sufferer. This, indeed, should be done, and done quickly, but at the same time with due deliberation and forethought. Especially in this disease should we be on our guard against the liberal administration of that soothing oriental balm once dedicated to the god of sleep. Opium, under these circumstances, may drown the warning notes of present pain, while fires of inflammation are progressing unnoticed, and doing a work of destruction that may never be repaired, or even which may cause an early dissolution from its encroachment upon intracranial tissues.

If seen early, we may hope to allay the inflammation by the application of leeches, and heat in some form, to the diseased organ. Leeches applied over the mastoid region, or anteriorly to the tragus, may do much toward the aborting of such a case in a very short time. Heat applied in the form of the ear douche has been of inestimable value in my own experience. From a fountain syringe have instilled into the offending member a hot solution of bicarbonate of soda, one dram to the quart of water, the soda solution serving to soften and dislodge any of the secretions which may have become hardened
and adherent in the external canal. This treatment repeated three or four times at intervals of two hours, the patient in the meantime lying with the inflamed ear upon a hot compress or hot water bottle, will in the majority of cases bring about the desired result. If, however, relief delay to come by the use of these milder measures, a paracentesis will be in order, as this extra pressure upon the delicate tissues within the tympanum will almost surely cause serious destruction, if long continued. In adults this slight operation may be performed with little difficulty without the use of any anaesthetic, but in the case of some frightened and refractory children it may require complete anaesthesia, good reflected light, a good speculum, and a very good knife, in order to operate satisfactorily.

The technique of the operation is given differently by different authors, but the following as outlined by Dench is a good way to proceed:—

"The knife should be entered just behind the processus brevis, and carried upward and inward parallel to the neck of the malleus until it has pierced the cellular tissue within the tympanic vault, and impinges upon the bony wall. The knife is then swept backward to the periphery of the membrane, the deep tissues being divided throughout the entire extent of the incision. It is also well on reaching the periphery to extend the incision directly outward, along the supero-posterior wall for a distance of a quarter of an inch, dividing all the soft part down to the bone."

The canal should be kept clean by frequent irrigations with some antiseptic solution, such as bichloride of mercury 1 to 5000, carbolic acid 1 to 500, peroxide of hydrogen 1 ounce to the pint of water, or a saturated solution of boric acid.
In many of these cases of acute purulent inflammation the mastoid antrum is affected also, and perhaps in many the mastoid cells; but with a free incision according to the method above given, complete drainage is furnished, both to atrium and attic, thus affording relief to the mastoid symptoms without any further surgical interference.
ECZEMA AND ITS TREATMENT.

BY WILBUR N. HUNT, M.D., CENTRAL CITY.

On the part of the general practitioner the subject of dermatology has in the past been much neglected, and has failed to receive the attention it deserves, either from the medical student or from the physician in active practice.

For this condition I am of the opinion that our colleges are largely to blame. The applicant for a diploma must be tolerably familiar with the diagnosis, symptoms, and treatment of many diseases of which he may never see a case, but he may know little or nothing of the most common skin diseases, and yet be allowed to go out among his fellowmen as a fully equipped Esculapius. He must be ready to give the anatomical characteristics of Addison's disease, of which he may see a case or two in a lifetime, and about which he would have abundant time to read up, but is not required to know the symptoms of eczema, which will come to him for immediate treatment almost every week of his professional life. Surely there ought to be a basis of instruction in these practical subjects on which the physician could build after receiving his diploma.

The statement is made that of three thousand physicians in attendance at the New York Polyclinic, not one per cent could correctly diagnose eczema. "Brethren, these things ought not so to be."

When we consider that a much greater portion of the physician's effort is expended in relieving pain and distress than in the actual saving of life, and then recall the vast amount of suffering to which eczema gives rise, we realize how important it is that we should be able to
handle this disease with a reasonable amount of skill. From my own observation, I am satisfied that a great deal of foolish work is done by the general practitioner in the management of this most common of the skin diseases, and it is for this reason that I bring the subject before you for discussion at this time. A short time ago a young lady came to me with a mild case of eczema, and told me she had already consulted one doctor, who informed her that she had a "skin disease," and that it was useless for her to take treatment, as she could not be cured. Suffice it to say, she now has a clear, healthy skin in spite of his unfavorable prognosis.

It is said that Hunter divided skin diseases into three classes, "those that sulphur would cure, those that mercury would cure, and those that the devil couldn't cure." Substituting arsenic in place of mercury, it would seem that a great many physicians of the present day adopt the same classification for eczema. While this may be a very simple and easily remembered division, it does not conform to the facts, and gives the devil more than his due.

Eczema is an inflammation of the skin, of which the common symptoms are redness, thickening, moisture, crusting, and itching. Unfortunately, it has no characteristic lesion, but may bear some resemblance to almost every other disease of the skin.

For the purpose of diagnosis, the classification which has been most satisfactory to me is that of Fox, viz., erythematos, papular, vesicular, and pustular at the beginning, any one of which may later become crusted, scaly, fissured, or ulcerated.

As regards treatment, the division which is most useful is that based upon the grade of inflammation, viz., acute, subacute, and chronic. It should be remembered
that this division is dependent on the pathological conditions rather than on the length of time of the existence of the disease, as it may continue acute through a long period of time or may become chronic very early in its history. Two or more of these forms may co-exist in the same subject, and one form is very likely to pass into another as the disease progresses.

As to the cause of eczema there has been much discussion, some maintaining that it is toxic in origin, and others that it is of parasitic origin. Up to the present time the question is still undecided, the micro-organism, if there be one, not having yet been discovered. In infancy, the cause seems to lie very largely in improper food and imperfect digestion, and these also have considerable influence on the causation of the disease in the adult. But here other factors enter in, and it is extremely difficult, and often impossible, to decide with any degree of certainty as to the cause other than the simple fact that the patient has a peculiar diathesis toward eczema. It is quite certain that a debilitated condition of the system, from whatever cause, is a predisposing factor of no small importance. As with other inflammations of the skin, there is a popular notion with the laity and with some physicians, that the coming out of an eczema is somehow of great benefit to the patient, and that its sudden disappearance is a sure sign of disaster. As a matter of fact, an inflammation of some internal organ may cause a skin eruption to recede, but it is always a result, and never a cause, of such inflammation. As has been well said, "the coming out of an eczema is never a fortunate thing unless it comes out on some one's baby other than our own." It may be safely said that the quicker an eczema is cured, the better it will be for the patient, if not better for the reputation of the physician in charge of the case.
In the treatment of eczema it is evident there is no specific, as the numerous remedies advertised as sure cures would clearly prove. Perhaps in no disease, local in character, is it more essential that the physician have a thorough knowledge of general medicine than in this one, but in my judgment eczema should always be looked upon as a curable disease, and when failure results from treatment the doctor is at fault, rather than the disease. Some authors maintain that in many cases local treatment only is needed, while others take the same view regarding internal treatment. It may be stated, however, that the prevailing opinion at the present time is largely in favor of both local and systematic treatment in every case of eczema, and with this opinion I fully concur.

Most of the cases that come into our hands are either acute or subacute in character, and the local treatment in these cases should be of a mild and soothing nature. In the chronic forms, stimulating applications should be used, such as the ointments of mercury, alicylic acid, sulphur, or oil of cade. In eczema intertrigo or eczema of chafing, a solution of nitrate of silver, 3 to 40 grains to the ounce, is almost a specific. In moist eczema, soap and water should be avoided; but in the dry, crusted, or scaly cases the daily cleansing with soap and water will be of benefit. As to the internal treatment, I have usually first sought to correct any errors of digestion, after which, in acute and subacute cases, an alkaline treatment will often result in a speedy recovery. In these forms, I am decidedly of the opinion that arsenic and antimony should never be used. In chronic cases, these remedies are often useful, although some authorities say we should discard them altogether. In debilitated subjects, the alkaline treatment would be inappropriate, and here a distinctively tonic course will usually be found beneficial.
Before giving up a case as hopeless or turning it over to a specialist, be sure to keep the patient for at least two months on small doses of sulphur.

While these are but mere hints as to treatment, I believe that by following out the plans here suggested, we shall be able to cure a large portion of our eczematous patients.
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