PROCEEDINGS

OF THE

NEBRASKA

STATE MEDICAL SOCIETY

TWENTY-FOURTH ANNUAL SESSION.

HELD AT

OMAHA, MAY 10th to 12th, 1892.
OFFICERS--1892-93.

M. L. HILDRETH, .................... Lyons, ............................ President.
A. S. von MANSFELDE, ............. Ashland, ............................ 1st Vice President.
HAROLD GIFFORD, .................... Omaha, ............................ 2d Vice President.
GEORGE WILKINSON, ................. Omaha, ............................ Recording Secretary.
B. B. DAVIS, .......................... McCook, ......................... Corresponding Secretary.
W. M. KNAPP, .......................... Lincoln, ............................ Treasurer.

COMMITTEES

COMMITTEE OF ARRANGEMENTS.

A. Bowen, .................................................. E. M. Whitten,
GEORGE WILKINSON, ................................. J. R. Haggard,
R. C. MOORE, ................................. Ira D. Stone,
F. A. LONG, ................................. J. S. Bell,
H. GIFFORD, ................................. B. B. Davis,
R. MCNAUGHEY, ................................. C. Watson,
W. L. DAYTON, ................................. H. L. Burrell,
Wm. KNAPP, ................................. S. M. Lane,
W. O. HENRY, ................................. C. M. G. Biart,
G. L. HUMPHREY, ................................. A. F. Jonas,
MARY STRONG, ................................. J. H. Peabody,
D. MACRAE, ................................. C. Rosewater,
W. H. CHRISTIE, ................................. C. M. Elder,
B. F. CRUMMER, ................................. J. V. Beghtol,
M. V. B. CLARK, ................................. C. C. Allison,
GEORGE WILKINSON, ................................. C. A. Bradley,
ELIZABETH GREEBE, ................................. A. D. Nesbit,

CREDENTIALS.

J. R. Haggard, E. A. Benton.

GRIEVANCES.

Ira D. Stone, M. T. Zellers.

NECROLOGY.

J. S. Bell, L. L. Ames.

PATHOLOGY AND HISTOLOGY.


PRACTICE OF MEDICINE.

C. Watson, C. M. Eastman.

OPHTHALMOLGY AND OTOLOGY.


NERVOUS AND MENTAL DISEASES.

S. M. Lane, H. S. Summer.

DERMATOLOGY.

C. M. G. Biart, F. A. Graham.

SURGERY.

A. F. Jonas, C. L. Mullins.

OBSTETRICS.

J. H. Peabody, I. Lukens.

GYNECOLOGY.

C. Rosewater, E. S. Dailey.

MATERIA MEDICA AND THERAPEUTICS.

C. M. Elder, M. O. Ricketts.

PUBLIC HYGIENE AND MEDICAL LEGISLATION.

J. V. Beghtol, F. D. Haldeman.

MEDICAL JURISPRUDENCE, CHEMISTRY AND TOXICOLOGY.

C. C. Allison, J. E. Garver.

LARYNGOLOGY.

C. A. Bradley, F. D. Crim.

ANATOMY AND PHYSIOLOGY.

A. D. Nesbit, J. T. Miller.
Society called to order at 4:15 p.m., President Inches in the chair.

The following permanent members registered during the session:

- Chas. Inches, Scribner; W. M. Knapp, Lincoln;
- E. A. Benton, Central City; M. L. Hildreth, Lyons; George Wilkinson, Omaha; L. A. Merriam, Omaha; Chas. Oxford, West Point; W. R. Lavender, Omaha; W. C. Campbell; F. S. Owen; D. C. Bryant, Omaha; N. F. Donaldson, North Platte; M. T. Zellers, Hooper; B. F. Whitmore, Omaha; W. O. Henry, Omaha; W. O. Bridges, Omaha; Jno. E. Summers, jr., Omaha; A. B. Soners, Omaha; W. F. Milroy, Omaha; J. C. Moore, Omaha; J. P. Lord, Omaha; A. F. Jonas, Omaha; James H. Peabody, Omaha; B. F. Crummer, Omaha; Chas. Rosewater, Omaha; I. Lukens, Herman; Martin V. Clark, Sutton; A. S. von Mansfelde, Ashland; G. W. Johnston, Hastings; H. Gifford, Omaha; E. W. Lee, Omaha; B. B. Davis, McCook; E. R. Fletcher, St Paul; H. Burrell, Omaha; W. F. Conwell, Neligh; D. S. Woodard, Hampton; F. A. Long, Madison; R. McConaughy, York; H. M. Cox, Neligh; V. H. Coffman, Omaha; J. C. Denise, Omaha; Howard Cook, Omaha; F. D. Haldeman, Ord; G. L. Humphreys, Kearney; Ewing Brown, Omaha; W. S. Gibbs, Omaha; T. E. Coulter, Omaha; J. V. Beghtol, Friend; Henry S. Bell, Kearney; E. L. Smith, Shelton; J. E. Garver, Pender, J. H. East, Rising City; J. W. Bullard, Pawnee City; J. J. Porter, Kearney; R. F. Dodson, Wilber; P. S. Leisener, Omaha; C. F. Kirkpatrick, Ashland; Levi F. McKenna, Omaha; H. P. Hamilton, Omaha; H. B. Lowery, Lincoln; Ira Doan, North Bend; B. T. West, Nelson; G. W. Shidler, York; Eleanor Stallard Dailey, Omaha; H. R. Mitchell, Lincoln; E. A. Sears, Decatur; A. D. Nesbit, Tekamah; J. M. Alden, Pierce; J. F. Wade, Arlington; F. A. Graham, Lincoln; Jos. H. Miller, David City; T. H. Buller, Howard; M. A. Perkins, Trumbull; G. W. Meredith, Ashland; W. L. Dayton, Lincoln; Jno. C. Davis, Omaha; Elizabeth Grabe, Beatrice; J. R. Haggart, Lincoln; G. W. Peebles, Lincoln; H. J. Winnett, Lincoln; C. E. Coffin, North Loup; E. M. Whitten, Nebraska City; Jas. B. Hungate, Weeping Water; A. A. Parker, Omaha; M. Kirkpatrick, South Omaha; C. M. Easton, Hebron; M. A. Robert, Omaha; Jno. C. Jones, Omaha; L. L. Ames, Chester; D. A. Walden, Beatrice; S. K. Spaulding, Omaha; Edward Bates, Beatrice; E. W. Martin, Fremont; Susan La Flesche, Omaha Agency; Richard C. Moore, Omaha; E. G. Watson, Friend; P. C. Hall, Mead; W. J. Harris, Beatrice.

Reading of minutes dispensed with by vote.

Report of committee of arrangements.

Voted that the report of Secretary be the first order for the evening session.

Voted that the report of the Corresponding Secretary be read by title and referred for publication.

Reading of report of Treasurer referred to auditing committee.

Voted that all reports on progress be read by title.

Adjourned to 8 o'clock.

EVENING SESSION.

Called to order at 8:30.

Reading of report of Secretary, and by vote referred to special committee.

Committee: von Mansfelde, Crummer and Henry.

OFFICIAL REPORT OF THE SECRETARY

For the year ending May 10th, 1892.

Mr. President, Ladies and Gentlemen:

The past year has been an eventful one in the line of medical matters in Nebraska.

The inauguration of the workings of the State Board of Health, under the new law, has been watched with interest by the profession; and while the law is not as perfect in some of its provisions as we might hope for, it is unquestionably a long step in the right direction.

It would certainly be fitting, and a matter of justice that this society should formally express to the members of the State Board of Health, and especially to its Secretaries, its appreciation and
thanks for their untiring and earnest efforts to carry out the provisions of the law faithfully.

They have labored incessantly, and amid hindrances and obstructions which would have baffled them, had they been actuated by any other than the highest and purest of motives been subjected to abuse and persecution which would have discouraged and thwarted the efforts of men less fearless and honest for the right. The plaudit, "well done, good and faithful servants" is due them.

The attention of the Society is called to the matter of the Pan-American Medical Congress as explained by a circular, which will be presented later. No argument is needed to convince every one of the benefits and importance of this project.

At the last meeting of the American Medical Association, a movement was instituted to urge upon Congress the necessity for, and value to the nation of a Cabinet Officer of Public Health, which has met with the universal approval of the profession. The journal of the A. M. A. has from time to time called attention to it, and urged upon the officers of state, and other societies the need of united action by means of resolutions, etc., to be presented to the members of Congress. I would earnestly urge the Society to take action upon this question at this meeting, by appointing a committee; and upon individual members to importune the members of Congress from the State by private correspondence.

We all know that any reforms of this nature must be initiated and fostered by the profession, if they ever come to pass.

In this connection, I would also call attention to the Paddock Pure Food Bill, which is pending before Congress; and it is said that an effort on the part of a combination of wholesale druggists is being made to defeat the bill. Comment is unnecessary, and our duty as a society, and as individuals is manifest.

About the first of March I mailed to each regular graduated physician in the State who had registered with the State Board, a postal card, calling attention to this meeting and extending an invitation to join the Society. The responses in applications are sufficient to satisfy me that the expense and trouble incurred were amply compensated for.

So far as I am informed, only one member has died during the past year. Dr. D. R. Ball, of Nelson, Drs. M. B. and J. D. Butin and J. S. Devries, having left the state, have, by request, been dropped from the rolls.

The present membership is about three hundred, with forty-six applications on file.
The principal work done by this Association is as expressed in their constitution: "To regulate the qualifications of practitioners of medicine in the state, encourage a high standard of professional ethics, to secure by legislation and the proclamation of every half hour until convalescence is established. If vomiting supervenes, diminish the dose. It is a good thing. Quarantine and legal matters need also to be looked after, but if they had twenty or thirty scholarly papers on the live questions of this progressive day, with a full report of thoughtful discussions, showing they are well informed and conversant with the problems now being studied by leading men in the profession; what a stimulus to further growth it would be to all in attendance and what a benefit to their patrons throughout the state.

Dr. David Powell in his "Report on Medical and Surgical Diseases" (California 1891) says "Freinkel has determined that it is impossible to vaccinate against diphtheria, although his methods are of no therapeutic avail during the actual progress of the disease." A decided step in advance has been reached through the reports of Drs. Behring and Kitasato who, working in Koch laboratory, announce the results as to the production of immunity against these two diseases, while they have also succeeded in curing animals suffering from diphtheria and tetanus. Through Behring's researches, we have found that animals suffering from diphtheria may be cured; but unfortunately the results are not applicable to human medicine. A very interesting and able paper (Colorado, 1891) on Hypnotism by Dr. Eskridge of Denver, is interesting to study. He began his investigations a pronounced skeptic and became in time an enthusiastic believer. This is a field of inquiry from which much may be expected in future. Psychology or mental science is yet in its infancy but I believe many of these vexatious problems will be solved in the near future, and hypnotism be taken from the hands of the charlatan to be practiced by able and scholarly physicians for the relief of many who suffer from manifold diseases of the nervous system.

An excellent paper on Eczema by Dr. Wetzel of Denver, gives the essentials of its pathology and treatment in its various conditions. Many are the remedies recommended, but I believe for the average case of eczema, nothing equals a solution of permanganate of potassium, five grains to the ounce of distilled water, and applied externally. Dr. Greene of Denver, in a paper on "The Treatment of pneumonia" gives "peroxide of hydrogen internally in two or three drachm doses every five minutes for an hour or more, then a dose every half hour until convalescence is established. If vomiting supervenes, diminish the dose. It is quickly absorbed and the oxygen exhaled through the lungs. My experience has convinced me that it does destroy the germ, for the disease, instead of going on to a crisis, will, when this treatment is begun early in the case, commence to fade away in from twenty-four to forty-eight hours and no crisis will occur. However, cases of acute lobar pneumonia without dyspnoea which are not treated until the disease has made considerable progress, will have a modified crisis." Thus do facts accumulate to show that acute diseases may be judged as I advocated in 1889.

Dr. Kate Lobinger of Denver, in speaking of pessaries, etc. says "It is a bad mechanical principle to support a body like the uterus by a prop from below. To support the earth with a prop is an ancient and crude idea. It took years for the truth to develop that the sustaining force is far distant in the sun. The analogy is good. The main supporting force of the uterus is not alone located in the pelvis. It acts from a distance and is as powerful as gravitation is.

Colorado physicians may well be proud of their State Medical Society. Their papers are thoughtful, scientific and worthy a careful perusal. The transactions of Connecticut (1891) furnishes a very able paper on the "Dispensal of Sewage" by Dr. Root. Also a fine paper on "Tuberculosis by Dr. Kent, relating what a benefit to their patrons throughout the state.

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Dr. Daggart in his article on "Treatment of Scarlatina" wisely objects to the use of pork fat externally during the desquamative stage and recommends the use of camphorated oil, cold cream and vaseline. Frequent bathing and the use of peroxyde of hydrogen externally will remove most of the desquamation as fast as it forms. To keep down the high temperature he says nothing of the value of salol and phenacetin, nor of the germicidal virtue of calcium sulphide. While reading this volume I am reminded how many good men there are practicing medicine who never take part in medical society work. Why is it? Perhaps my old friend of thirty years ago, Dr. M. M. J., of Hartford, Conn., can answer for I've looked in vain for years to find something from his pen. I am pleased to know that the papers read at the last meeting (Kentucky 1891) of this society are to be published. It seems strange that they should not be able, with a membership of four hundred, to publish their papers. I trust it is not because of their inferiority. We await the volume.

Dr. Hunter, (Maine 1891) in his presidential address reviews the progress in the profession during the last forty years. Dr. Gordon, of Portland in his annual oration on "Common Sense in Medicine" takes a correct view when he says "The didactic method of teaching medicine is doomed to pass away."
an insult to the intelligence of the properly educated student to spend an hour repeating stale and obvious facts taken from a text book which he can read as well as I." Prof. Gairdner of Glasgow at the British Medical Association said in 1890, "Education should be into things and not nonsense to think that three drachms of carbolic acid, one drop of eucalyptol and a drachm of turpentine thus evaporated in a quart of water will kill the germs of diphtheria! I have known physicians in Omaha to use it, but their patients continued to die just the same. Dr. Huntington recommends peroxide of mercury as the best germicides in diphtheria, viz: bichloride, biniodide and the cyanide, and then says: "Since peroxide, of hydrogen has been reported as an excellent local application in diphtheria, it would seem worthy of a trial with the steam atomizer in the laryngeal variety." Is it possible, doctor, that living as you do, under the influence of a great university medical school, you have not been using in every case of diphtheria for the last five or six years so valuable and potent a germicide as peroxide of hydrogen? Is it true that you have not even used it in one case to test its merits and that you have let your patients die that should have been saved? You say, doctor, "It would seem worthy of a trial in the laryngeal variety," plainly indicating that you have had no experience with it in diphtheria. May I ask the patients drink it in small and frequently repeated doses; use it as a spray and a gargle in every case and it will bring you great results.

Dr. Hugh McColl, in the article on "Salol in Typhoid Fever," says "It shortens the disease, renders it less severe, patients are more comfortable, it controls and prevents diarrhoea, prevents tympanites; dry tongue sordes on the teeth; enables us to keep up the nourishment of our patients, and it moderately lowers temperature." I take pleasure in corroborating his every statement in this particular as I have demonstrated its value in several cases. Thus do facts accumulate to prove my position of three years ago that acute diseases can be successfully and safely juggulated.

The following is what Dr. Dudley, of Hilleboro says in discussion: "I cannot endorse Dr. Beall's paper. There is more of nothing said in the paper and less of something than any paper I have ever heard read before this body, and I have been a member of it since the year of '81. I can see nothing in that paper worthy of publication. Take it up and analyze it from A to Izard and he describes gout, rheumatism, eczema and all the other skin diseases. In other words, to save time, he makes a specialty of the skin, of which there are books full, and I don't see what is going to be the benefit to be derived from this paper being handed down to the generations yet to succeed us." The doctors as well as some of the other disputants on this subject might get some light by re-reading the scholarly paper by Dr. McLaughlin, of 1880 (Texas). They might here find an explanation of atypical diseases. The papers of the Texas society are always above the average of those in the Southern states.

My dear doctor—if you could read some of the trash published in other transactions from other states, you would think Dr. Beall's paper is a good one. I refer you to the mighty nonsense on "The Tribune Man," by Mr. Drake, of Tennessee (1880). There are some elegant productions in some of the transactions of the Southern states, but the majority are finely written, literary papers with oratorical flights of fancy and rhetorical effusions, with poetical quotations and not a
modern scientific thought to be found—bushels of chaff without a kernel of wheat.

Dr. Carhart, of Lampasas, in an elegant paper on “Substitution in the filling of prescriptions,” says: “You trusted your druggist and were deceived. The druggist killed your patient.” Now, doctors, if you had dispensed your own medicines, you might have avoided the uncertainty of crude drugs of varying strength, and used reliable alkaloidal preparations of definite strength. The druggist killed your patient. Now, if you had used reliable alkaloidal products, you might have avoided the uncertainty of crude drugs of varying strength, and used reliable alkaloidal preparations of definite strength. You might have saved your patient.

Dr. Eastland, of Wichita Falls has an excellent paper on scarlet fever, but does not seem to have learned the great value of calcium sulphide internally as a germ and pus destroyer, nor of the value of hydrogen peroxide externally during the desquamative period, nor its value in discharges from the ear and inflammations of the nose and throat.

Dr. Wysong, of Galveston has a very interesting and valuable paper on “Some points in examination of urine.” No doubt such an article is of great value to many men in the profession who do not possess a standard text book on the subject. This paper has been compiled with much care and from an extensive acquaintance with many physicians, there are many who need such data.

Without intending to criticise severely the paper read by the doctor, I desire to use it as a text to say that from five year’s reading of the various transactions of various societies, I have found too many papers that are only compilations of well-known facts, that a well-informed undergraduate ought to know. This, however, is only partly true of the doctor’s paper for his “Chart of ready methods in urinalysis” is a most excellent and valuable one, and shows he is well-informed on a subject of which few doctors know anything.

Dr. Bennett, of Austin, on “How to Prevent After Pains,” says: “After the third stage, introduce two or three fingers into the vagina and gently manipulate the vaginal portion of the uterus in a way to secure as nearly as possible the closure of the gaping cervix and os, employing the other hand over the hypogastrum merely to steady the organ.” There is no doubt of the necessity of obtaining a firm contraction, but I doubt if it is advisable to resort to this method, nor do I believe the method suggested by Dr. Paine is wise, viz., giving a fluid drachm of fluid extract of ergot and then apply an abdominal bandage.

If all doctors used their own antiseptic soap as they ought, and if they were all cleanly with their hands and finger nails, this method might do when enjoined with external manipulation. But I believe five or ten grains of quinine will do more and better than a drachm of ergot. By a judicious kneading of the uterus through the abdominal wall, all that is necessary can be accomplished. When this is well done, no abdominal bandage is necessary. In short, an abdominal bandage for such cases and purpose is evidence of gross ignorance on the part of the physician who orders or allows it. A bandage around the hips may conduce to the comfort of the patient, for the first twenty-hours after labor, not longer.

Judge J. C. Walker, of Waco, has a splendid paper in this section on Medical Jurisprudence and Psychology, entitled “Evolution of Life and Mind.” He says “The new mode of motion (called life) made its appearance in the sea, and just in proportion as organism was developed, just in that proportion was developed the new mode of motion—life. And just in proportion as the increments of development were diversified, so was life diversified. And to this same source are we forced to trace all the phenomena of life now existing. Prof Huxley says the monad is the first unit of individuality. I cannot subscribe to that conclusion. I think there is a living monad peculiar to each and every primary original element of matter far below Prof. Huxley’s monad. The monad can only assimilate such matter and force as is within its environment. And if the matter so assimilated has not within itself life and force, then what life or force can the monad derive from such matter? It certainly cannot derive something for nothing. To me it seems utterly impossible to account scientifically for the diversified forms of living matter without investing each atom of each primary element with inherent force and this force is its life. From the above, the corollary is inevitable that there is no such thing as dead matter, every atom has its distinct, inherent, individual life.”

The above are only a few thoughts taken from this masterly paper. It is a pleasure to feel that doctors are becoming more scientific and not afraid to interrogate nature by the help of their reasoning faculties. Taken as a whole, Texas State Medical Society transactions are far above the average and demonstrate that it possesses some bright and able men as members. The volume of 1891 is a valuable contribution to scientific medicine and an honor to the State.

The transactions of New York State Medical Association for 1891 is a beautiful volume of 672 pages with gilt top.

Dr. Stephen Smith, in his presidential address entitled “The Art of Teaching Medicine” says some very excellent things. He recommends recitations mostly and the preparation of a series of text-books after the plan of usual courses in college. I cannot accept Dr. Smith’s ideas completely. The graded course has been settled as the best and recitations as superior to didactic lectures, but a series of text books especially written for the student of medicine and what he must learn like a boy does in a country school does his history and grammar, is to my mind a step backward. Remember, medical students should first be well educated before beginning the course. Then as much as possible of the plan adopted by Agassiz in his teaching of biology at the island of Penikese should be followed. In short, nature should be studied with the aid of good books and never attempt to learn any science by books alone. The teaching of many branches or subjects in most of our schools is a farce, take Materia Medica and Therapeutics for instance. Students should be investigators and be taught how to find out things. They should study things themselves and not study words and sentences about things.

Dr. Williams, of White Pigeon, has a paper on
“Gall Stones—A Newer Plan of Treatment.” This consists first of morphine to give temporary relief, then as soon as my patient is easy, I give refined glycerine in doses of one ounce every two hours until free movement of the bowels takes place. The result of the internal administration of glycerine is copious evacuation, the stools frequently containing gall stones and insipid bile. I believe glycerine depletes the duodenal mucous membrane and thus liberates the duct that is pressed upon.”

After careful reading of the volume from New Jersey, (1891), I am not disappointed. I did not expect much, having read previous volumes. The Presidents' address of twenty printed pages, is very well written, and contains many statements of well-known facts.

Dr. Holden's essay on Tuberculosis is very well compiled and would be profitable reading to many physicians. Dr. Ruerson, of Boonton, in his essay on "Some Recent Views on Appendicitis," gives the well-known views of Sands, McBurney, Wier, Sanderson and others. He, however, informs us that "thirty years ago like an epidemic it came into existence. This disease was not overlooked before that time because it did not exist. Epidemics come and go. Malaria has left us. Diphtheria is on the wane. Appendicitis, born in the early stages has been abundantly proven for several years and I refer you to a paper on this subject by your corresponding secretary and published in our transactions of 1889."

Dr. Thomson prefers Lebben to Koumys and says "Lebben is fermented every day from fresh milk by adding to that which has just been brought in from the cows some of the fermented milk left from the previous day, the first fermentation of which originally was made by the yeast plant by means of dough or common yeast. When thus daily prepared, it is of but a slightly acid flavor, is smooth like cream and not in large curds, and in my experience has been the most serviceable food that I can find for chronic gastric ulcer and other serious derangements of stomach digestion, and likewise in the treatment of phthisis, Bright's disease and similar wasting affections." The other papers are fine scholarly productions, and worthy a careful study. To select out all the fine things said would be to transcribe half the volume.

Dr. Silver (Ohio 1891) in a paper on "A Plea for a more extended supervision of the parturient woman" says "From the physician's standpoint every pregnant woman should be regarded as in a pathological condition, while the thorough discussion following is a credit to the society. The doctor, however, ought to have gone into more specific detail as to just what is to be done by the attending physician."

Dr. Baxter, in his presidential address (Tennessee, 1891), made a splendid effort and it is full of advanced thought on things of interest to the profession and the public, all of which needs to be read and appreciated. Dr. Beaumont has a splendid paper on "Preparatory treatment of a parturient woman." It is well worthy of study, while the thorough discussion following is a credit to the society. The doctor, however, ought to have gone into more specific detail as to just what is to be done by the attending physician.
### TABULATED REPORT OF SOCIETY PROCEEDINGS.

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<td>8 Seventy-one pages of literary papers. A great opportunity for improvement.</td>
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<td>Arkansas—1891</td>
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<td>California—1891</td>
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<td>29 Ninety-three members live in Denver. No index. No table of contents.</td>
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<td>Colorado—1891</td>
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<td>Delaware—1891</td>
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<td>9 With more than six hundred physicians in the state, this Society makes a very poor showing. Not received.</td>
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<td>Florida—1891</td>
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<td>Indiana—1891</td>
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<td>Iowa—1891</td>
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<td>12 Very little of value in any of the papers. Ought to do better.</td>
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<td>Kansas—1891</td>
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<td>Kentucky—1891</td>
<td>Paper</td>
<td>200</td>
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<td>36 One address; five essays and twenty county reports. Fair address, poor essay and very poor reports. Do better next time.</td>
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<td>Louisiana—1891</td>
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<td>36 Consists mostly of post-prandial speeches and sketches of physicians of last hundred years. Excellent papers; this volume ought to be owned by all progressive physicians.</td>
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<td>64 Thirty-three subjects considered by fifty-one speakers. A splendid volume. One hundred and forty-six papers read in five years; every doctor should own and read it.</td>
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<td>Maryland—1891</td>
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<td>41 Refuse to exchange transactions.</td>
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<td>Massachusetts—1891</td>
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<td>7 One paper 1888; four in 1890; two in 1891. Candidtive for membership must present a paper. Such papers should be published.</td>
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<td>Michigan—1891</td>
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<td>14 Fine scholarly papers; A most excellent working Society.</td>
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<td>Minnesota—1891</td>
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<td>15 Excellent papers and interesting discussions.</td>
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<td>Mississippi—1891</td>
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<td>38 Fair papers; ought to do better work.</td>
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<td>Missouri—1891</td>
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<td>16 Well written papers. Extended and most excellent discussions.</td>
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<td>Montana—1891</td>
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<td>77 Poor papers; not creditable to so large a state and Society.</td>
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<td>Nebraska—1891</td>
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<td>17 Splendid scholarly papers with excellent discussions. A few good men seem to do most of the work. Excellent papers worthy of study. A splendid Society. Excellent papers worthy a careful reading.</td>
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<td>8 Some very excellent papers—profitable reading.</td>
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<td>New York State Society—1891</td>
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<td>29 Not as good papers as in 1890; no discussions reported.</td>
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<td>29 Have laid the foundation for an excellent working Society.</td>
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<td>New York Academy Medicine—1890</td>
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<td>16 Excellent reports of cases and fair discussions.</td>
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<td>New York Neurological Society—1891</td>
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<td>31 Excellent papers worthv a careful reading.</td>
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<td>South Dakota—1890 and 1891</td>
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<td>11 Well written papers; fine discussion.</td>
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Dr. Hutchinson, honorary member from Rhode Island, in a paper on "Electricity" referring to the obstacle to the general scientific use of electricity says, "It takes too much time to learn electrophysics and because there is no such thing as an idiopathic peritonitis. I can only say, over and over again, yes and yes. If there be such a thing as idiopathic meningitis and pleuritis, why not peritonitis? It means one which is the result of absorption of pathogenic microbes from somewhere—but not necessarily a localized suppurrative focus, in the neighborhood of the appendix vermiciformis, or the fallopian tubes, the usual sites examined for focus of suppurative inflammation; but it means a localized condition of the peritoneum somewhere caused, perhaps, by a trauma, in which pathogenic microbes are localized, where they produce themselves and consequence spread the process. In any instance of purely mechanical obstruction of the intestine, the wall of the bowel becomes vascular in the vain attempt to overcome the obstruction, and so exhausts itself, at it were; and then the intestinal contents, always loaded with pathogenic microbes, permeate this weakened wall, and passing into the peritoneal cavity, produce the so-called idiopathic peritonitis."

It is impracticable to select out the good thoughts from the various articles published in this volume, hence I advise you to buy it and read it.

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Treasurer's Report

For the year ending May 1, 1892. Omaha, May 1, 1895.

W. M. Knapp, Treasurer, in Account with Nebraska State Medical Society:

May 1, 1891

Dr. CR.

To amount in treasury May 1, 1891

$154.73

Received from Secretary with unexpired

of appropriation 1890

31.40

Received from Secretary fees for 37 new

members

183.00

Received from members on dues

150.00

Total Receipts

$727.13

May 14, By amount voucher No. 1

$100.00

June 12

1

25.00

Sept. 14

3

200.00

Dec. 25

4

150.00

Total Expenditures

$475.00

In Hands of Treasurer May 1st, 1891

$54.13

Reading of Report of Special Committee on Public Hygiene and Medical Legislation by Dr. Crummer.

As the chairman of your committee on medical legislation I have no special report to make and will only occupy a short time in some general reflections upon the present status of the law, and some recommendations for the future. I hope that no member of this society is so wrapped up in the scientific work before us, important as that may be, that he will begrudge a reasonable time spent in the discussion of this important subject.

Truth to tell, gentlemen we are too much devoted to the interests of our medical advancement and look over and beyond these matters vital to the wellbeing of our profession, of our standing with the public and even our own self-respect. Our medical law is now in an experimental stage. While all may admit that it is the best we could have achieved as a start, there are many ways in which future legislation may improve it. We are hampered by a contemptible narrow gauge constitution, the counterpart of which does not exist in the United States, which makes it impossible to give the medical profession direct charge of matters of which they only are competent judges. I am free to say after most careful study and consultation that I see no prospect of brilliant or even satisfactory results in medical legislation, or rather the enforcement of it until a change of the constitution, the counterpart of which does not exist in the United States, which makes it impossible to give the medical profession direct charge of matters of which they only are competent judges.

We have granted some certificates that it would seem could have been withheld but they are few comparatively. In getting prosecutions under the legal machinery, at least in Omaha, is most at fault. The case of C. G. Wo will come up in the District Court this month and will presumably be carried to the Supreme Court as a test case. This case was begun in the police court in this city. The Board had to face the alternative of having an inexperienced assistant prosecutor meet one of the brightest attorneys in Omaha or hire counsel to represent them and the medical profession. Of course the board has no fund and upon consultation with Dr. Allen I secured the services of an experienced firm of lawyers to assist in this prosecution. This firm is F. C. & S. As you all know there are large numbers of decisions on points involved that appear only, or at first in medical journals. This is a special field for an attorney and no public prosecutor could be expected to give it sufficient time to do the best possible with such a case. This is now being done by this firm. A recent letter from them is as follows and shows accurately the status of the case.

Dr. B. F. Crummer:

Dear Sir: Referring to our interview of yesterday in relation to the case of state vs. C. G. Wo, we have to say:

We think the case is a good one to take through to the supreme court as it will be a good case in which to settle the question as to whether the decision of the State Board of Health in refusing to grant a certificate is final when the decision has not been appealed from. In our opinion the question whether C. G. Wo had such a diploma as entitled him to a certificate from the State Board of Health cannot enter into the criminal case. If the decision of the State Board of Health was wrong it should have been appealed from or reviewed by the courts at the time. No appeal or proceeding in error having been taken or prosecuted, we think the decision of the State Board of Health is res adjudicata.

With regard to our fees, we ought to have from $250.00 to $300.00 for assisting in this case to its
final determination in the Supreme Court, one-half of which should be paid now and the other half when the case has been tried in the Supreme Court.

Yours very truly,

Fawcett, Churchill & Sturdevant,
Dictated by Mr. Fawcett.

I now come to the most important part of my communication. The most careful survey of that matter leads to the conclusion that the case of C. G. Wo is the best one to make a test case of. It is highly essential that when our law goes to the supreme court it should go with able counsel who will if possible be a dead shot winner. The question is will this society bear or help to bear the expense. The fees will amount to $250 or $300, a concession to me of $200 on what is usually a $500 case. One half of this amount must be paid within a few days when the case goes to the District Court, and the remainder when it goes to Lincoln. If this society would vote $100 at this time with a provisional $100 in the future I think it could be accomplished, as Dr. Allen promises at least $50 from the Homeopathic State Society. If on the other hand the Nebraska State Medical Society wishes to lay down and let this case go by default I will pay for the work already done and drop the whole matter.

B. F. Crummer,
Chairman

GEORGE WILKINSON

Discussion by Drs. Crummer, von Mansfelde, Beghtol, Knapp and Humphreys of the test case mentioned in the report, and the manner of the working of the State Board of Health.

Voted that the report of the committee be adopted and that an order be drawn on the Treasurer for one hundred dollars, in favor of the committee with a provision for one additional hundred, if needed, for the prosecution of the test case mentioned in the report.

REPORT OF COMMITTEE ON NECROLOGY.

The committee reported the death of Dr. D. R. Ball of Nelson, Neb.

Dr. D. R. Ball was born near Annapolis, Maryland, June 6, 1826. His father, Samuel C. Ball, was of English descent and his mother, Hannah Schneider, of German birth. In early childhood he removed with his parents to Monroe Co., Ohio, where he worked on a farm studying at night and in winter until able to teach school. He received his first certificate from Slocum, the author of an arithmetic.

Commenced the study of medicine at Woodsfield in 1845 under Dr. John McMahon, an eccentric but talented physician; commenced practice June, 1848, at Cameron, then called Jamestown. Came to Iowa in 1849, and graduated from the Keokuk Medical College in 1857; practiced in Iowa until 1872 and since that time in Nebraska—making in all 47 years practice.

Dr. J. E. Summers, Jr., offered the following amendment to the constitution:

That any legally qualified practitioner shall be eligible for membership in this society, whatsoever his source of education, provided that he or she disclaims in writing adherence to any particular dogma or line of practice other than rational medicine.

The following resolutions were offered by Dr. von Mansfelde, read and adopted:

The Nebraska State Medical Society in annual session assembled, views with pride, the effort made by the Honorable Algernon Paddock, Senator from Nebraska in Congress, in behalf of the Paddock Pure Food Bill; and,

WHEREAS, This society is fully convinced of the necessity of the measure and the great good it will accomplish in behalf of pure drugs and pure food; and, in consequence, greater health and longer life of the people; leaving out of consideration entirely, the great saving of money now paid for not only useless, but in many cases dangerous adulterations. Be it

Resolved, Therefore, that this society extend its hearty thanks to Senator Paddock for his untiring and unremitting work for the passage of this bill; and further:

That every member of this society urge upon the members of Congress the necessity of the enactment of this bill into a law of the land; and,

That a copy of this resolution, properly endorsed, be sent by the Secretary to all the members of Congress from this state.

RESOLUTION.

It having been urged upon Congress by a special committee of the American Medical Association that the office of Secretary of Health be created; And, whereas, such an appointment would materially enhance the work of sanitation in the United States, as well as increase the safety of international intercourse,

And, whereas, such an appointment would also greatly facilitate and hasten the unification of all laws in behalf of public health. Therefore, be it

Resolved, By the Nebraska State Medical Society in annual session assembled, that we fully endorse this measure and that the Secretary send these resolutions, properly endorsed, to each of our representatives in Congress.

Resolved further that it is hereby made the duty of every member of this society, as far as it is in his or her power, to use their personal influence with the members of Congress for the successful termination of this issue.

The following also was adopted. We recommend the adoption of the following resolution:

Resolved, That we most heartily endorse the Pan-American Medical Congress, the first meeting of which is to be held in Washington, D. C., Sept. 5 to 8, inclusive, 1893, and that we urge the members of The Nebraska State Medical Society to do all in their power to further its ends and assure its success.

Dr. L. A. Merriam offered the following amendment to the constitution:
To the Officers and Members of the Nebraska State Medical Society:

I offer the following amendment to Constitution, viz:

Strike out the word "three" in Sec. 4 of Article 2, and insert instead thereof the words "one-third."

Dr. McDonald and Walden of the auditing committee, being absent, Drs. Milroy and Humphreys appointed to fill vacancy.

Committee on banquet announced that as the time for such was drawing near that it would be best to adjourn until the following morning.

Adjourned.

WEDNESDAY MORNING SESSION.

Called to order by President Inches at 10:15.

Resignation of Alfred Shipman read and accepted.

Paper by Dr. Milroy on Hereditary Oedema, read and discussed by Drs. Lowrey, Milroy, and Bridges. Referred for publication.

Paper by Dr. Wilkinson, "The Voice, &c.," read and referred for publication.

Paper by Dr. Bridges on "Interstitial Nephritis," read and discussed by Drs. Long, Aspen, Bell, Humphreys and Bridges. Referred for publication.

Adjourned.

AFTERNOON SESSION.

Called to order by Vice-President Benton.

Reading of paper on "Diphtheria" by Dr. A. Bowen, discussed by Drs. Hildreth, Conway, Bullard, Aspen, Parkhurst and Bowen. Referred for publication.


Paper by Dr. Allson, "Reflex Pain," discussed by Drs. Bridges, Summers, Jr; Peabody, Gifford, and Allison. Referred.

Paper by Dr. R. McConaughy on "Professional peculiarities." Read and referred.

Paper by Dr. Coulter on "Orthodoxy and Heterodoxy," read, discussed by Dr. von Mansfelde and referred.

Paper by Dr. Gifford on "Use of Thiersch flap" with also exhibition of a patient to illustrate. Discussed by Dr. Jones and referred.

Paper by Dr. C. Bryant on "Preparation of enucleated eyes, &c" read and discussed by Dr. Denise. Referred.

Paper by Dr. Denise, "Case of orbital tumor." Discussed by Bullard, Mansfelde and Denise. Referred.

It was voted that the Society decline with thanks the invitation of the Cudahy Packing Co., to ride to South Omaha. (Inclement weather). Adjourned.

WEDNESDAY EVENING.

Called to order at 8.30 by President Inches.

Report of auditing committee.

Application of Dr. Birkner the committee recommended that it be recommitted to be held over for one year, and the fee returned. Report adopted.

Report of committee on secretary's report, read and adopted.

RESOLUTION.

To the officers and members of the N. S. M. S. Your special committee on secretary's report beg leave to submit.

Resolved. That the thanks of the society are due and are hereby extended to the Secretary for his continued excellent work in behalf of the welfare of this society.

WHEREAS. The committee recommends with regret the acceptance of the resignations of Dr. J. L. Butin and Mary R. Butin, who have removed to California. The committee also recommend the acceptance of the resignation of Dr. J. S. Devries.

WHEREAS. The postponement of the publication of the proceedings of 1891, in book form is hereby approved. And it is further recommended that the proceeding of 1891 and 1892 be published in one book as early as may be convenient.

Very respectfully submitted.

A. S. V. MANSFELDE, Chairman.

W. O. HENRY,

Committee on Secretary's Report.

REPORT OF AUDITING COMMITTEE.

To the officers and members of the N. S. M. S. Your auditing committee have examined the accounts of the Secretary and Treasurer and find them correct. To-Wit:

- On hand May 1, 1891...........................................$252.40
- Collected during the year.......................................572.13
- Total.............................................................$824.53

Expended for various purposes as shown by accompanying vouchers.....................................................475.00

- In hands of Treasurer May 1, 1892...........................................$222.13
- For dues collected during this session about..........................150.00
- For admission fees .............................................160.00
- Total.............................................................$532.00

Making a total on hand for disbursements for the coming year of......................................................$562.13

The expenses will be the same plus the 200 dollars ordered paid to committee on medical legislation.

Making a total of......................................................$562.13

There will therefore be a deficit of from 100 to 150 dollars.

To cover which your committee recommend an assessment of one dollar on every member.

Respectfully submitted.

A. S. V. MANSFELDE, Chairman.

G. L. HUMPHREYS,

Auditing Committee.

Report of auditing committee read.

Moved that the recommendations of the committee be adopted save the part which refers to special assessment.
Amendment by Humphreys. That the executive committee be authorized to make a special assessment of one dollar per member, if found necessary to carry out the recommendation of the committee. Amendment carried.

Original motion carried as amended.

Address of President Inches.

Ladies and Gentlemen: We are convened for a purpose. What is it? Conventions and conferences multiply; They add to the formal expression of their being, as it may be in written constitution or otherwise, when occasion has a majority. It is even yet heralded of them that they will be deliberative; though it would appear in most cases that the goods are obtained under false pretenses.

This art of getting together, of getting everything in sight, we are not adept at—not all of us. The non-conformance therein is our reproach the quite disinterested reproach of many magnates.

Why not exploit ourselves and that which is distinctive in us as a body? The race is apparently for the swift and long winded, and are not these the cardinal virtues?

Well, my fellows, because the very raison d'etre of our existence and place among mankind is at variance with the accepted order of the day. What agency is more powerful than the newspaper, more fit to give expression to these forces? At a recent banqueting in this city a distinguished editor said of the newspaper that "It has less connection with the regular practitioners of medicine than with other walks of life. That one live, active, and perhaps ignorant quack, is worth more to a newspaper, pecuniarily, than 500 up-right physicians; declares the newspaper to be a business venture; that few sources of revenue can compare with that from the quack parasite; that in the intense rivalry of newspapers, with their gigantic establishments, the day has long passed when an editor can speak his mind.

We have charitably and fairly well appreciated this state of things, as it is ever increasingly manifested; but for the demonstration of the truth in its entirety, the utterance is unique.

It is very acceptable, for in the last year, has there been in the columns of the larger metropolitan dailies a continual fusillade over our obliquity in this matter of advertising, and contemptible as appearing with virtuous motives. There is nothing metaphoric about this comparison, of one to 500; nor would there be taking the city of Chicago of one to 3,000. The morality involved will be discovered some day; but for the present it is business pure and simple. I should add that the context, on the occasion referred to, and general sentiment expressed, was exceedingly creditable, and should be in the possession of every reputable practitioner in Nebraska.

Here are we virtually told by an exponent of our existence and place among mankind is at variance with the accepted order of the day. What agency is more powerful than the newspaper, more fit to give expression to these forces? At a recent banqueting in this city a distinguished editor said of the newspaper that "It has less connection with the regular practitioners of medicine than with other walks of life. That one live, active, and perhaps ignorant quack, is worth more to a newspaper, pecuniarily, than 500 up-right physicians; declares the newspaper to be a business venture; that few sources of revenue can compare with that from the quack parasite; that in the intense rivalry of newspapers, with their gigantic establishments, the day has long passed when an editor can speak his mind.

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Here are we virtually told by an exponent of the times that we are not 'in it'—pecuniarily. I asked the purpose of our assemblage. Why, is it not written, the promotion of medical knowledge and encouragement of agreeable relations? We will go through with the regular order. The president will duly give thanks for the distinction honor etc., etc., and will expiate any error on progress and the glorious opportunities and excellencies of our art. We will fold our tents and silently steal away. And presentlv, in the even tenor of our existence, the thought will dawn and continue, that incidently or accidentally, exploitation was on top, and that for the major part of us the occasion was vacated.

What of the situation for each and all physicians, in every relation of life, and for 365 days in the year? This honest-spoken and intelligent journalist tells us that impostors should be exterminated from the face of the earth; that his paper will help in the enforcement of the law. Imposition to be cured by law: Who makes the laws? Public opinion through its representatives. Whence public opinion? The newspaper editor? No, for the most part and of necessity, he is but an expositor. Perchance that may be its wealth—Indeed engratf the sermonizer's utterances with his own. Perchance the public appreciate the wisdom, and forsooth its representatives allow an enactment to issue in consonance therewith. But woe is in store for that law if it conflicts with the ruling forces among men. And what are these? Surely, the power of place, and credulity born of superstition.

The discoveries of science, in their practical application, only add an increased zest to this chase hunting; for so far these are mainly in the line of conservation of energy, and applied to industrial pursuit in the annihilation of toil, time and space. The material world is unfolding, and man will presently soar away en grand tenue to the stars; only a more diverse article of man than before his acquisition, and with more attributes peculiar.

The further secrets of nature come in our line, and will make glad the doctor's heart. Biological evolution has far more in store for man's welfare than conservation of energy. When the ruling forces are the knowledge that may be its wealth—indeed engratf the sermonizer's utterances with his own. Perchance that may be its wealth—indeed engratf the sermonizer's utterances with his own. Perchance the public appreciate the wisdom, and forsooth its representatives allow an enactment to issue in consonance therewith. But woe is in store for that law if it conflicts with the ruling forces among men. And what are these? Surely, the power of place, and credulity born of superstition.

Is not the revelation of the transmittal of disease by distinct organisms exact science? To be sure the antiseptic gives place in importance to the aseptic, but how much does this discover any affinity with mongers in the wonderful? To be sure there is some appreciation of truth contained, which, however, in application goes to the extreme of rhapsody and comedy in a jump. Quite recently the Central Music Hall of Chicago was filled with the intelligence of the city—doctors of dignity well interspersed. The occasion was the inauguration of a fight with dirt, tangible dirt. And presentlv, in the even tenor of our existence, the thought will dawn and continue, that incidently or accidentally, exploitation was on top, and that for the major part of us the occasion was vacated.

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collar is already started on the road to salvation. The world can no longer respect a dirty saint, and a nasty alley is an abomination to the Lord." Now, if this is not appropriating our thunder, I don’t know what is; though the toilet and technique advertised to is in advance and very naked. However, delightful suggestions come to us in this awakening. Pray, for how long a time is it, that the world can “no longer” respect a dirty saint, and how comes it about? It was appropriate enough that a physician, in the person of Sarah Hackett Stevenson, should immediately follow, and with prepared address, yet allow herself to repeat with emphasis, “cleanliness is godliness;” while she added that it was a rare soul that could escape contamination with unclean surroundings.

What a misty perception has the pedagogic mind of the import of this: Contamination to the soul by reason of innumerable minute organisms creating distemper in the body? Yes. But how much more so than in the general violation of all biological law? And how about the welfare of souls, which these souls beget? Biology unfolds and will impel; but biology is not of to-day, “even unto the third and fourth generation was it uttered of old,” and with free grace for them as for us. There is no caprice in nature’s laws.

Elizabeth Cady Stanton says: “If the money and religious enthusiasm devoted toward regeneration of the race were directed toward the generation of those to come, the whole face of society might be changed before another national centennial.” Even so.

The Christian science cure, the faith cure, and a thousand and one curers, emanation of pulpit oration of those to come, the whole face of society itself is such an easy thing to quack, when you know your patient wants you to, and, by reason of this want, perhaps beneficial.” Very good. But a correct philosophy would reach further than this, for there are many methods of and incentives to quackery, and its visage is oft that of light and beneficence.

A vigorous exhorter is thus reported preaching from the theme, “Cast Thy Burden on the Lord,” he denounced the science of medicine as pure quackery. God had cured a woman of cancer, which had destroyed the sight of one eye. He said he had but laid his hand on her head, and her faith had done it in a moment.” Now this is not worthy of notice. Our best-informed people, preachers and editors, condemn it, for he may be said to have been a specialist, being engaged in the Christian science cause. But contrast it, all the same, with this of Mr. Talmage, of a woman who has a dreadful abscess, from which she had suffered untold agonies, and all surgery had been exhausted upon her, and worse and worse she grew until we proceeded to pray about it. The abscess began immediately to be cured. She is entirely well, and without knife and surgery.”

And this, too, delivered about the same time and from the same theme, “Cast Thy Burden on the Lord.” Is not Mr. Talmage well informed? Does any man know better the pulse of the people? Can any man living picture in words more grandiloquent than he, the triumph of science, the abandonment of idolatry. Mr. Talmage is not one of the 500. He is decidedly “in it.”

I have allowed myself to make these remarks in mind alone, the unequal strife between science and quackery; reasons why I thought our dependence on legal enactment of doubtful expediency.

By no means that I believe in the doctrine of laissez-faire. By no means that I do not delight in the advanced place our art has taken. Theology, law and medicine were for a long time ‘the professions,’ and honored in this order. To-day professions are many, with rank uncertain. We must note therefore, with gratification, the disposition to exalt our own. Our experience and philosophy are the creed makers. In the past the deference paid us had a limit; that which the heavy professional style, resting on mysticism, would allow. Now a small, but growing larger percentage of the public, is attracted by the sincerity of exact knowledge.

There is something more than capricious wit in the drawing of excellence of Dr. Leete. Least of all would I have these words taken, as written in the spirit of infidelity. A fear is expressed occasionally, that the doctor is growing insincere to Christianity. The physician a scoffer? No. Not of truth—not of beauty of holiness—not of the power of love. The exact opposite: that in proportion as his life is spent in touch with the misery of mankind, and unravelling the thread of which that web is composed, there should be a continual weaning away from these, is a contradiction. A weaning there certainly is from something, and if offense has come to him from those who claim a higher hope, some ethics had better be looked into. My reference to biological evolution is meagre and casual. The vistas to be opened thereby go to the very foundation of society; will reveal and interpret the Christian faith, as no history has done. It was at the Methodist Ecumenical council of last autumn that these words were delivered: “This everlasting evolution stands with the reality and immortality of God and man, the primary and necessary truths of our consciousness and experience.”

Nobility with charity will be the capstone of the doctor’s being; but he will not build upon or magnify weakness.

Perhaps the most baneful thing in the Christian world is alcoholic appetite; and it is to be terminated by law. There are other baneful giants looming up. The last census reports one-fifth of the married women of Massachusetts to be sterile, and presents many cognate features bearing on the stability of the nation; but there is much patent to many not yet to be found in an invariable census report.
The newspapers teem with the narration of such moral depravity as confounds a conventional intelligence, and if the doctor's knowledge of the trend of our best informed people, within and without church walls, in the matter of the every appetite—what begets it and the tangled up shape it has every nerve of being—if this were common possession and duly appreciated, the machinists would be puzzled quite as much to frame an enactment prohibitory as now to enforce one.

Dealing with a presently prominent case, an Omaha editor made vigorous comment, at once perspicacious and platitudinous. Said he, "parents are too careless; the more intellectual and ambitious the more need for watching—an unhealthy demonstration should not be made light of—if a doctor had been called in when the inexplicable fascination was manifested, all might have been averted." Well the doctor's experience gives him strength; and he is ofttime apt in its application. But he would be an artist truly to have remedied this case. I refer to the Mitchell-Ward tragedy in Memphis. Pray, where in all of this came the first unhealthy demonstration? Surely, he should be called in before his patient has being, and surely Elizabeth Stanton's moralizing is exceedingly wise.

But Bellamy's age is not here yet. We have a medical law, which so far has proved entirely acceptable to public and profession; outcome of a judicious and pains-taking execution on the part of the medical board. A definition of the word "regular" as it occurs in the army regulations has recently been issued from the war department. It is in terms practically the same as the qualification required to practice under our law. I think it should constitute the sole qualification for membership in associations of medical men, where the welfare of the profession is paramount. Not because the War department, or our State law specify it; for in each case this may be the pronouncement of expediency. But because the very fact is of a distinctive requirement otherwise, establishes that which we entirely disclaim, sectarianism in medicine.

Indeed, and this to the point; it not only creates an enemy, but gives him his ammunition. This society will not make us consult or associate with those whom we care not to. That is tacitly a matter of individual judgment here or outside. The canons of gentlemanly conduct and general weal determine that in large measure; and it is outside that the harm is done. Here we claim that logic is logic. Let the potencies be exhibited here, if the atmosphere is salubrious. The vagaries of belief expressed among ourselves are as wide as the poles in things infinitesimal. In essentials only do we find unity. Given therefore legal recognition, let the same principles govern our association here, as elsewhere, and not give countenance to the charge that our advances in applied science have been more rapid than in applied ethics.

Here ends my lucubrations. Taking pen in hand, it was far from purpose that they should run in this groove. I have dealt mainly with a phase of the situation; and there are doubtless many to whom these words come with diminished force, speculates, and sinecurists all, from assis- tant adjunct to staff surgeon, generally our exalted ones, who move and have being contiguous to a lift. Centralization has invaded our domain, and some day, the general practitioner, will be found, like Macaulay's New Zealander, sitting on a dilapidated bridge, with patience immense and ducats few. But now, as ever, he is peer of the realm. I thank you.

Resolution presented by Dr. von Mansfelde. Read and adopted:

WHEREAS. On the first day of August 1892, a vacancy will occur in the Board of Secretaries of the State Board of Health by reason of the expiration of the term of office of the present appointee, Dr. J. V. Beghtol, and

WHEREAS. It is the sense of this society that the work accomplished by the representatives of the regular school of medicine in their work under the new medical law is satisfactory to the profession, and believing that the experience gained during the past year will still better qualify the present incumbent for future work, there is re be it

Resolved. That this society hereby recommend the re-appointment of Dr. J. V. Beghtol as one of the Secretaries of the State Board of Health when his present term of office shall have expired.

Resolution of Dr. Merriam. Read and adopted:

To the Officers and Members of the State Medical Society, session of May, 1892.

Resolved. That the transactions of this session be published in the Omaha Clinic on the same terms as last year, $5.50, including the binding of transactions of 1891 and 1892 in one volume.

Resolution of Dr. von Mansfelde. Read and adopted:

Resolved. That the incoming committees on grievances take cognizance of all members who, by the report of the State Board of Health, have no legal status in this society, and report their deliberations at the next annual meeting.

ELECTION OF OFFICERS.

M. L. Hildreth, elected President for ensuing year; adjournment.

THURSDAY FORENOON.

Called to order by President Inches. Voted that the rules be suspended and necessary business be transacted. Dr. Mansfelde elected first vice president; H. Gifford, second vice president; George Wilkinson, sec.; B. B. Davis, cor. sec.; W. M. Knapp, treasurer.

Resolution introduced by Dr. von Mansfelde, and voted that the provisions of the resolution govern for the next meeting.

BY LAWS.

Put in place of the last sentence in section 2, By Laws to wit. These committees shall report at the ensuing meeting on the year's progress in the department assigned, the following:
The chairman of each committee shall prepare a paper on a subject in his assigned department and his associates shall open the discussion thereon. The chairman shall furnish a copy of his paper or a synopsis thereof to his associates, at least one month before the annual meeting.

Resolutions of Dr. Mansfield introduced and adopted:

WHEREAS the Omaha Medical Society in its endeavor to entertain the members of the Nebraska State Medical Society during their sojourn in Omaha have outstripped the highest expectation of their guests: Be it, therefore

Resolved, That we are highly flattered with the attentions received and that we express our appreciation by a standing vote—

Nebraska City chosen as the next place of meeting. Bill of Dr. Knapp for $8.00 presented and allowed. Voted that an order be drawn for payment.

Paper by Dr. Carver, "Does your patient need glasses," read and discussed by Drs. Knapp, Bullard, Denise and Carver.

Referred for publication.

Paper by Dr. Mansfelde "Chloroform read, discussed by Drs. Coffman, Peabody, Inches, Bridges R. C. Moore, Coulter, Henry, Lowry, Bronson of Dubuque, Iowa, Whitman, Denise and Mansfelde.

Referred for publication. Paper by Dr. Henry. "Atlo-Axoid diseases."

Exhibit of specimens from laparotomy cases by Dr. Jonas with remarks. Adjourned to 1:30.

Called to order at 2 p.m. Dr. Peabody chosen chairman pro tem.

Rules suspended by vote to allow transaction of business.

Resolutions introduced by Dr. Knapp.

Resolved: that the Secretary and Treasurer be instructed to drop from their books the names of all members who are more than three years in arrears after July 30th, 1892, after first notifying them of this action and shall have failed further in the payment of their dues.

INSTALLATION OF OFFICERS.

Voted that the officers elected, who are not present are declared installed.

Papers of Drs. Henry and Jonas referred for publication, also paper by Dr. Pickett. Reading paper by Dr. A. Bowen, on "Spina Bifida-occulta," referred for publication.

Paper by Dr. Peabody on "Pistol Shot Wounds," read and referred.

Paper by Dr. B. B. Davis on "Trachotomy," read and discussed by Drs. Peabody, Simmons and others, referred for publication.

Voted that the sum of $75.00 be appropriated for use of Secretary who is instructed to draw order on treasury for same.
GRIEVANCES.—R. C. Moore, chairman, Ira D. Stone, M. T. Zellers.

NECROLOGY.—F. A. Long, chairman, J. S. Bell, L. L. Ames.


PRACTICE OF MEDICINE.—R. McConaughy, chairman, C. Watson, C. M. Eastman.


NERVOUS AND MENTAL DISEASES.—Wm. Knapp, chairman, S. M. Lane, H. S. Summer.

DERMATOLOGY.—W. O. Henry, chairman, C. M. G. Biart, F. A. Graham.


OBSTETRICS.—Mary Strong, chairman, J. II. Peabody I. Lukens.

GYNECOLOGY.—D. Macrae, chairman, C. Rosewater, E. S. Dailey.

MATERIA MEDICA AND THERAPEUTICS.—W. H. Christie, chairman, C. M. Elder, M. O. Ricketts.

PUBLIC HYGIENE AND MEDICAL LEGISLATION.—B. F. Crummer, chairman, J. V. Beghtol, F. D. Haldeman.

MEDICAL JURISPRUDENCE, CHEMISTRY AND TOXICOLOGY.—M. V. B. Clark, chairman, C. C. Allison J. E. Garver.

LARYNGOLOGY.—Wilkinson, chairman, C. A. Bradley, F. D. Crim.

ANATOMY AND PHYSIOLOGY.—Elizabeth Grebe, chairman, A. D. Nesbit, J. T. Miller.

Those on committees please take notice of the resolution passed at this last session with reference to the reading and discussion of papers.

GEORGE WILKINSON, secretary.
THE VOICE AS A MUSICAL INSTRUMENT BY DISEASE AFFECTED.

BY GEORGE WILKINSON, M. D., OMAHA.

WIND INSTRUMENTS.

No musical instrument that man can fashion is capable of the marvelous ability of the human voice. To all appearances it is a crude musculo-cartilagenous box, composed of larynx, mouth and nasal chambers; lined with a mucous membrane. Its mechanism is such that it is classed with the wind instruments; controlling a column of air only some four or five inches long. There is nothing comparable to it in the arts nor has science been able to imitate or model any instrument to its fashion. How the voice can execute on a column of air of only four inches, the sounds of an organ, with pipes ranging from a few to many feet in length, surpasses all mechanical ingenuity, and physicists have never been able to classify it satisfactorily with any particular class of wind instruments. The reed pipe comes nearer to satisfying the conditions, and yet even this is far from demonstrating the compass of such a reed pipe but a few inches long. The analogy of the reed instrument to the voice is dependent upon the fact that the margins of the vocal bands or chords do allow of the slightest vibration, yet nothing comparable to the fallacious idea that they vibrate as the strings or chords of stringed instruments.

By a musical instrument is meant any contrivance which will produce tones (musical sounds), either by a solid body—itslelf vibrating—or by the vibrations of air contained in such solid body. There are two great classes of wind musical instruments; it is of the reed class, that the voice belongs. The flute, the oboe, horns, cornet, clarinet, bassoon, organ and all wind instruments are of one or the other of these two classes, of either i. e. flexible or inflexible embouchure. In the flexible

FIG. 1.

Flexible or Reed Embouchure, open pipe.

Flexible or Reed Embouchure, open pipe.

Inflexible Embouchure, open pipe.

or reed class either the reed itself or the lips acting as such as in the cornet, may be the flexible embouchure. The simplest reed instrument is a piece of oat straw with embouchure cut as in diagram, the little sliver of straw acting as the reed of the embouchure.
When air is forced by a bellows against the inflexible opening of the organ pipe, the air current, (like air from the lips across the mouth piece of a flute), by passing across the air enclosed in the column of the pipe or tube sets up vibrations in the whole air column (you do not blow in the flute but across it) and gives a sound characteristic in pitch of the length of column of the pipe or tube. The range of the pitch which such instruments are able to make, varies not only with the length of the pipe for a given diameter but also the character of the embouchure, whether inflexible, like an organ pipe or flexible like a clarinet, etc., or as the lips to the cornet. All these instruments as compared with the voice are comparatively simple, being composed of a tube of certain length with, (as the fife, flute, etc.,) or without means of changing, as the organ pipe, their vibrating ventral segments; their resonating qualities are simple also as compared to the human voice which is an organ of reed embouchure, yet flute, horn and clarinet combined.

If you are at all familiar with the construction of wind instruments and realize what a difficult acoustic problem is resonance, then you are prepared to wonder at the results obtained in the seemingly crude organ of the voice. It is by reason of a musical mechanism far beyond our mechanical ability and just within the scope of our knowledge of the physics of sound, that we appreciate the action of the vocal chords in connection with the resonant chambers above, in bringing about these remarkable musical effects. These resonant chambers are the pharynx, mouth and nose, and in their resonance lies the secret of all that is grand in the voice. It is difficult to make ourselves believe that the vocal bands are more capable than any reed and that the soft palate is a vibrator than which the mechanism of all wood sounding boards is easy of our appreciation; that the resonating pipe extension with the different shapes that can be given it at will, is more marvelous than any musical instrument of which we know.

Invariably in all wind instruments there must be something of the nature of the bellows which can establish a current of air across the embouchure of the instrument, to set in vibration the column of air in its pipe. The bellows of the organ, the lips to the flageolet and cornet, the breath for the harmonica, and the lungs for the voice.

In the training of the voice of the singer, the first step is the development of the lungs in the art of breathing properly upon strictly physical and physiological grounds. Within recent years it has been conclusively proven that no larynx can be acceptable as producing the best result, even though the resonant chambers above be non deficient, unless the bellows mechanism, in propelling this current against the glottis (which is the embouchure of the voice) is trained to drive the air current in such quantity and direction, and with such force as is necessary to bring about a result, which only those artists can accomplish who realize this most important factor in the production of tone.

**Proper Breathing.**

The proper manner of breathing has for its object two purports; namely, that the bellows shall be capable and that the current against the glottis shall be in the right direction and under perfect control. Madam Seiler and Brown & Behnke and others have in late years brought about a revolution in the science of vocal culture by their work in this direction and have pointed out the fallacy of the Italian school, where vocal culture was supposed to be supreme. Their method of training has a direct
bearing on the affections of the voice from the abuse of it in singing under false methods in the use of the bellows' action, in propelling the air current against those parts (the embouchure or glottis) of the vocal apparatus which act on the vibrating column of air enclosed. In order that the lungs may be trained to breathe properly we must fully appreciate what is meant by natural breathing and of this muscle must be made the most use possible. Women make this essential muscle futile, by throwing it to a great extent out of use and do by tight lacing contrary to nature by making the accessory muscles of respiration do that which they are unqualified to do in any measure; hence the strain, etc., of such artificial respiration in throwing the air current against the glottis in this unnatural manner. Respiration is natural unless the diaphragm be given free play and no singer can expect to sing rightly unless he appreciate that the diaphragm is first and the rib muscles are secondary.

The Pitch.

The voice box of the larynx is comparable to the embouchure in an open reed organ pipe. Its muscles have most complicated actions, opening and closing the glottis in the rhythm of respiration, and in tone production; pulling in various directions and combinations not only their fibres in toto but also fibres variously combined in one and the same muscle. From the child to the adult the pitch registers are regulated by the size of the voice box. As the child grows to puberty the chords or vocal bands in the male lengthen as the larynx or voice box grows and sometimes the voice breaks even in a night. At this time the pitch has changed from the higher registers to lower ones. The same adaptation of the parts is intact but the lengthening has lowered the pitch of the reed apparatus. The larynx of the female does not change in size so much as in the male, hence remains in about the same pitch registers. The column of air in the pipe or resonant chambers above, changes little if at all. You can best answer this question by noting that you still can with ease recognize the voice of the boy after breaking; in other words it has yet exactly the same quality. Or one can arrive at the same conclusion in another way: the quality of the singer's voice does not change when he sings in his different registers; you still recognize the voice by the quality, the pitch has changed (at the vocal chords) but the quality is the same; in other words the resonant chambers are pretty much the same throughout life except when affected by disease.

It is curious that these chambers can vary as the faces of men vary, no two voices sounding just alike and the only reason that can be given is that there must be manifold differences in the anatomical construction of the shape, size, etc., of sinuses, and shelves, of the resonant chambers of the mouth, nose, larynx and pharynx.

The functions of both the pitch making part or voice box and the vibrating column of air in the resonant chambers above are two different things: before tracing then what is meant by the registers it will be well to define the physiological action of the larynx in its control of pitch upon which the registers depend. So complex is the muscular arrangement that it is impossible to have any clear idea of the action of these muscles unless we resort
You notice in figure that the shield or thyroid cartilage rests upon the ring or cricoid in such a manner that it can rock forward and back upon it.

You notice also that the insertion of the vocal bands are in the front and inside of this rocking cartilage and also that behind placed erect upon the stationary or cricoid cartilage are two little pyramids able not to rock so much as to revolve around their long axes and that the other end of each vocal chord is inserted to one of their sides. These two facts make us prepared to understand the main part of the mechanism relative to pitch. Anything now that will widen the chords from each other or that will bring them in closer apposition will lower or raise the pitch; so also will anything that tightens or loosens the vocal bands and both by increasing the number of vibrations not so much of the vocal bands as of the air column in the resonant chambers above. This is the reason that the term band has been used instead of chords as being more correct because this instrument is not a stringed instrument. Whenever the crico-thyroid muscles contract the shield cartilage rocks forward over the ring and the result you can readily see is that the vocal bands are put on the stretch, hence tightening them.
Whenever the thyro-arytenoid muscles are made to pull apart the pyramids or arytenoid cartilages by twirling them outward or made to close them by twirling them inward; then the chink of the glottis or space between the bands becoming larger or smaller the vibration number (pitch) of the air in the resonant chambers above is made respectively higher or lower. This is exactly the principle of the reed open pipe organ, but depends in this case on the length of the pipe.

The muscles at the back of the arytenoid cartilages (crico-arytenoid-postici) which serve to open the glottis so regularly in the act of inspiration, between times of making the tones in singing and speaking must not be confused with those intrinsic muscles of the larynx which are interested entirely in the production of the voice. We have yet to describe this farther tone mechanism of the thyro-arytenoid muscles.

It is only within recent years that the true import of the action of these muscles has been brought out in all its full meaning. They have the power of contracting in full or in part of their fibres and hence even a part of the chink of the glottis may be closed by sets of fibres contracting as is very prettily shown in figure 13, and also even the edges of the vocal chords may be made thick or thin from the particular contraction of fibres or sets of fibres of this wonderful muscle and there is supposed even to be a torsion action of which it is said to be capable to account for the falsetto voice.

THE REGISTERS.

However this may be, we must now point out the registers and let us have a clear idea first of all as to what is meant by the same. When we speak of the registers we refer to the function of the vocal chords; namely, pitch.

No musical instrument has other than one register except compound instruments, as the organ, etc., but the human voice has not only one, but more than one register; even five radical mechanisms are possible toward changing the voice in the female and all brought about by muscle action in one and the same pipe; no other instrument in creation can do this.

Many instruments have a greater range in pitch than the voice yet none within so small a compass as this four inches of tube; the wonder is that it can be made to compete at all with other musical instruments in pitch.

We have now to inquire into the relation of the different registers to the pitch of the voice in the adult, male and female. In children the voice box and the chambers above are seldom capable of giving pure tone from a musical standpoint.

The child has not that use of the muscles which it is capable of in after life but there is no reason to conclude that it has no muscle fibres any more than for alike reason it cannot make use of some of the other muscles of its body as well as later in life. Little Cavanagh, the treble singer had a voice, (to the time of its breaking) in which he had remarkable power over the muscles in changing the registers but the great
beauty of his voice lay in the resonant chambers. The female has the most wonderful power of all; here the tone in pitch begins at a note in the scale at which the tension is the smallest and the vocal chords are far apart and of thick edges and as the tone rises in pitch, suddenly for this tension and width, the voice refuses to rise farther in good tone; it is passing beyond the capabilities of the first or its lowest register—the so called first or lower thick chest register—and now a marked change happens in the larynx box, the vocal bands tighten slightly by the cricothyroid muscles pulling the shield forward over the ring cartilage and the pitch now can rise in tone and sing up quite a number of pitches higher in this second register, the so called upper thick register.

In the scheme below is given the most recent classification of the registers based on the conditions of the muscle action as demonstrated by the laryngoscope and not entirely as heretofore on the seeming location of the sound; or chest, throat and head registers.

There is now no dispute in regard to the upper thin, small head register: Notice that the vocal bands in only a part of their extent are open in enabling the soprano voice to execute the very highest limit to its pitch.

Below is given the table of the range of the human voice through the registers from the deepest bass pitch to the highest soprano ever known:
THE RESONANT CHAMBERS AND RESONANCE.

We pass on now to a most important part of the production of the voice, namely; the vibrating column of air in the pipe or resonant chambers above.

Here the character, quality or timber of the organ is at issue.

What are we to look for with reference to such a chamber as is made up of the upper larynx, the pharynx, mouth and nasal organs in their ability to fashion the air column as an open organ pipe arrangement and how much can we depend upon it for actual resonance or sympathetic vibration of any of its hard or soft parts?

With the exception of the soft palate and possibly the epiglottis there has never been pointed out anything capable of this action; the tongue is too thick and all the other parts are too stiff and hard to vibrate in sympathy to the vibrating column of air enclosed. That the soft palate is a resonator you can readily prove for yourself; for when those consonants or vowels are sung in which the soft palate is necessarily against the pharyngeal wall, closing off the nose, the sound comes out well at the nose showing that the sound wave must have passed directly through the thin vibrating soft palate.

We cannot well go farther until we know more about the manner in which quality is given to a tone by resonance. If the vowels a e i o u were spoken or sung separately and not a single change took place in the shape of the resonant chambers, no matter how many changes were made in the pitch at the vocal chords by change here, the same vowel would be made for each attempt, the quality of the voice has fled. When the flute player raises the fingers off the air hole of his instrument the pitch changes but not the flute like sound; it is simply another sound in pitch to the same quality exactly. How different with the voice; it cannot only sing the pitches of the same quality but it can so modify the quality to the same pitch that it can imitate any other musical instrument, and what is far more important it can by practice learn to speak or sing a language, which is mankind's instrument for exchange of thought and all this by the power of resonance in so modifying tone that by a change in quality this wonderful result is brought about. A certain amount of this it can however never change and this gives to each particular voice that stamp by which we can always recognize it not only in song or speech in any language but at any pitch.

Only by disease is even this altered by changes in the anatomical relations of the resonant chambers.

All the vowel sounds in any language are simply those sounds that can be made by the voice with the mouth open, and in which one can distinctly recognize such
a difference and can fully appreciate it. There are but a few and in our language we have a e i o u and sometimes w and y. The consonants are nothing more nor less than the vowels modified by being cut up or cut short in different ways by the teeth, lips, nose, etc. You cannot utter a single consonant without uttering a vowel at the same time; you have only cut the vowel so that you recognize it as a consonant. When you say a as in father and gently close the lips you are made to say ma; do it twice in succession, it is ma-ma; the same with p and a in rendering papa. All this is a matter of resonance caused by differences made by muscle action in shaping this chamber by the position of the tongue, lips, cheeks and soft palate.

Let us now see how the chambers are affected by the voice in singing and how affections of the larynx, throat, mouth and nasal passages bring about changes in the voice.

Ordinarily both singing and speaking are healthy exercises and the sounding of the tones in the larynx is not only good for the muscles involved but also the general effect of the vibration of air against the mucous membranes is salutary. Not every voice can produce good tones but nearly every voice can be trained to sing unless the resonant chambers are involved.

This is exactly what the singing teacher means when he says “You have a good voice we have only to bring it out by training.” He may not know just the reason for this assertion but his ear recognized that the harmonics came out pure when a pitch was sounded by the larynx. In the modern method of training the object is to drive the air from the lungs in such a manner against the vocal chords as to strike them—the glottis—with the best effect and also to give the muscles of respiration such exercise as will not tire them even when the voice is called upon to sustain high notes in hard registers. To attempt to do this with the accessory muscles of respiration and not depend in great part on the diaphragm is as much a mistake to the singer as to the right handed batter in base ball, who puts his left hand before his right when first learning. He can never become a good batter until he alters this method and once learned it is hard to change. Then there is the effect of such propelling of the air on the vocal chords by causing just this same muscle action by which changes take place in the larynx and resonant chambers of the singer, due no doubt to the abuse of the voice by the air current being directed in the wrong direction so as to affect the mucous membrane as we all recognize in congestions of the voice box and also in clermans’s sore throat; from excessive use of the voice under a wrong use of and strain of the muscles of the bellows and of the larynx.

I have known singers with trouble of this nature that I was entirely unable to relieve, who became perfectly well when taught the proper use of the lungs in driving the air current against the glottis. This is very important not only in singers, but in all who use the voice much in speaking, as public speakers, auctioneers, life insurance men, lawyers all, often suffer congestions and inflamations of larynx and pharynx from this and from no other apparent cause.

With regard now to the tonsils. What function they subserve in digestion or otherwise I do not know, but I do know they have a great function to subvert when enlarged with reference to the resonant chambers of the voice.

Patti’s tonsils before she had them removed with the tonsiltome were certainly not chronically very much enlarged. She could never have been at the time the great singer that she was if they had been, but it is said that such of them as was removed improved her voice. By practice in listen-
ing to the voices of children one can recognize enlarged tonsils by simply hearing them speak. Besides the muffled sound of the voice, you can recognize a certain characteristic timber almost with the same precision as you can in the case of nasal difficulties, vegetations in vault of pharynx, hypertrophies, etc. I have never yet seen a singer with enlarged tonsils give a tone rich in harmonics and would not expect it any more than I would expect to hear such from occluded nasal chambers.

The effect of nasal difficulty on the quality of the voice you are all familiar with but let me point out one and that is in hypertrophy of the mucous membrane of the turbinated bones, the most common one.

There is a popular fallacy that when we speak through our noses the quality becomes that of a twang. Now the fact is that we never do speak through our noses except when we use such consonants as n or m and if you will close your nose with your fingers you will get this nasal twang under all circumstances. It is hard to make people understand the reason of this and they never will get it right. It simply amounts to this, the sound of the voice is not a current of air; it is only the vibrations of air inclosed in a chamber and if the air cannot vibrate in the nose it being closed by the finger or by hypertrophy, polypi or otherwise, then we lose those harmonics that go to give the voice its pleasing timber and we have instead the nasal twang. The treatment of these affections suggests itself from this outline of the cause. There is no subject so fraught with ignorance by the laity as the voice in the production of tone. There is a field for research here untouched.

One can just get a glimpse of the infinite possibilities of the special surgery of the future with these resonant chambers, as by practice we realize what harmonics go and what discords come in listening to voices affected by various lesions of the resonant chambers, hypertrophies, atrophies, cleft palate, etc., etc.

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**AN UNDESCRIBED VARIETY OF HEREDITARY OEDEMA.**

**By W. F. Milroy, M.D.**

On August twentieth, 1891, Mr. H—presented himself for examination for life insurance. He was an American, a clergyman, 31 years of age, six feet and one-half inch in height and weighed one hundred and seventy-eight pounds. His habits were the best and he had never been sick in his life. With respect to longevity, his family history was excellent. Physical examination revealed nothing abnormal, with regard to the thoracic or abdominal viscera. The applicant called my attention to his lower extremities. I found a condition of oedema, involving the feet and extending up the legs to the knees. It was, and the patient states, had always been somewhat more marked in the left extremity than the right. Upon inspection the leg presented a slightly rosy hue, extending around its whole circumference and involving the whole extremity, gradually disappearing near the knee. When lightly pressed, the color disappeared but returned quickly when the pressure was removed. Scattered thickly over this base were white spots about the size of a pea. These also were found over every part of the leg as far as the rosy color extended. This appearance of the leg, according to the statement of the applicant, is constant. There were no varicose veins and no evidences of bad nutrition, nor was there tendency to ulceration in any part of the leg. The circumference of the calf of the leg at its largest part was seventeen inches, and the smallest circumference of the ankle was fourteen inches. Deep pressure with the finger over the crest of the tibia, at a point near its middle, produced a depression which was distinctly apparent to both touch and sight ten minutes after the pressure was removed. This will convey an idea of the well-marked character of
the oedema. The pitting on pressure was quite evident, as far up as the tubercle of the tibia, but not over the patella or above it. Mr. H— stated that this oedematous enlargement had existed from birth. As he had grown in stature the oedematous parts had grown, so as to preserve the same size relative to the remainder of the body. It has always been free from pain, showed no disposition to ulcerate, and, in short, had never given him the least inconvenience. In the evening, if he had been on his feet a good deal during the day, the swelling seemed somewhat greater than in the morning, the skin appearing rather tense.

The applicant stated that this enlargement of the extremities was a family characteristic, which he had inherited from his mother. Fortunately for the purpose of this study, the family of Mr. H.'s mother is one which has been long in America and has been productive upon the free soil of New England. In 1883, a member of the family published a neat volume giving the family history in America for a period of 250 years. It should be remarked, however, that the peculiarity now under discussion seems to have entered the family by marriage about 1768. With the aid of this volume and the assistance of members of the family still living, I am able to offer the facts which I present, feeling that they are thoroughly reliable, though not at every point as complete as could be desired. For convenience I present, in graphic form a summary of the family history, indicating in which individuals the oedema has occurred:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. James; Unknown.</td>
<td>6 children; 3 have each one large foot.</td>
<td>11 children; 2 have each a large foot.</td>
</tr>
<tr>
<td>2. Lydia; one large leg.</td>
<td>8 children; 1 large foot.</td>
<td>9 children; normal.</td>
</tr>
<tr>
<td>3. Sarah; normal.</td>
<td>1 large leg.</td>
<td>8 children; 1 large foot.</td>
</tr>
<tr>
<td>4. Martha; one large leg.</td>
<td>5 children; 1 large leg.</td>
<td>9 children; 1 both legs large, 1 one foot large.</td>
</tr>
<tr>
<td>5. Olive; normal.</td>
<td>4 children; 1 large leg.</td>
<td>6 children; 1 one foot large, 1 both feet large.</td>
</tr>
<tr>
<td>6. Charity; both legs large.</td>
<td>3 children; 1 large foot.</td>
<td>12 children; normal.</td>
</tr>
<tr>
<td>7. Sally; one large foot and ankle.</td>
<td>4 children; the applicant, both legs normal.</td>
<td>13 children; normal.</td>
</tr>
<tr>
<td>8. Mary; unknown.</td>
<td></td>
<td></td>
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<tr>
<td>9. Julia; one large foot and leg.</td>
<td>4 children; the applicant, both legs normal.</td>
<td>12 children; normal.</td>
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A relative of Mrs. Joseph W., both W. one large leg: legs large.

First generation.—
In 1768 Benjamin W. married Olive S. They were both physically normal but a near relative (probably a sister) of Mrs. W. had an enlarged leg.

Second generation.—
Joseph W., son of Benjamin, was born in 1784 and died at the age of 78 years of typhoid fever. He had both legs enormously enlarged.

Third generation.—
Joseph was twice married and had nine children, as follows:

1. James died at the age of four years and no information has been obtained in regard to him,
2. Lydia is still living at the age of 82. She has one leg enlarged.
3. Sarah is also living aged 80. Her extremities are normal.
4. Twin birth; Martha, who died in infancy had one enlarged leg. Olive died of "jungle fever" in India at the age of 38. Both of her extremities were normal.

5. Charity is living at the age of 75. She was born with one enlarged foot. When between twenty and thirty years of age she was thrown from a carriage, sustaining an injury to the sound leg. The injury was recovered from without special difficulty but the leg gradually enlarged from that time until it reached enormous proportions. It has never given her the slightest inconvenience. She has through all her life enjoyed excellent health and her extraordinary activity has always been a source of wonder to her friends.

6. Sally is living aged 73. She has one enlarged foot and ankle.

7. Mary died a young child and no information has been obtained in regard to her.

8. Julia is living at the age of 66.
Both extremities were normal until she was 12 years old. At that time one ankle had the appearance of having been sprained, though she was not aware of having thus injured it. For several weeks she could not walk on account of the distress in this ankle. The lameness was recovered from, though the swelling never disappeared but on the contrary, increased as she grew, until it involved the foot and leg. It has never caused her any inconvenience since the time mentioned when she was 12 years of age. The other leg has remained normal.

Fourth generation.
Lydia, the second daughter, had six children. Of these the three daughters are normal. The three sons have each one foot somewhat enlarged.
Sarah has had eight children, of whom three are living. They were all normal with the exception of one son who has one large foot.

Olive has had five children of whom the youngest has one enlarged leg, the remainder being normal.

Charity has four children. Three of these are normal. The other has one enlarged leg.

Sally has two daughters and a son, the former being normal. The son had one enlarged foot. When he reached maturity his testicles began to enlarge and this progressed to such a degree that he had one of them removed. As the enlargement of the testicles increased, that of the foot diminished until it was reduced to normal size and it has since remained normal.

Julia had three children by her first husband, all of whom are normal. By her second husband she has one son (the applicant) with both legs and feet greatly enlarged.

Fifth generation.
Of the descendents of Lydia, there are in this generation eleven children: of whom nine are normal. The remaining two, a son and a daughter, have each an enlarged foot.
Sarah has nine grandchildren all normal.
Olive has nine grand-children. A son of her eldest daughter has both legs enlarged and a son of her eldest son has one foot enlarged. The others are normal.
Charity has three grandsons and one granddaughter. One of the sons has one enlarged foot. The remainder are normal.
Sally has two grand-children, both normal. One of these is a son of the individual who had the testicle removed, as already referred to.
Julia has had thirteen grand-children, all normal.

Sixth generation.
Of the three grand-sons of Charity mentioned, the eldest has three children, all normal. The youngest has also three children, of whom the eldest, a son, has

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one enlarged foot and the youngest, a daughter, has both feet enlarged. Of the descendants of Julia there are in this generation two children, both normal.

It thus appears that in the six generations of the family, comprising 97 individuals, there have been 22 cases of this deformity, or about 23 per cent of the whole number. Of the 22 cases 12 were males, 7 females and 3 unknown, appearing to show that it is rather more common among the males than females of the family. In the later generations the percentage of cases is about as large as in the earlier, but there is decided decrease in the extent of the oedema, in most of them.

Atavism is frequently apparent in the development of the family peculiarity. I have not been able to learn that treatment has been undertaken, for the cure of the affections in any case.

The invariable characteristics of the disorder have been: 1—Congenital origin with a steady growth corresponding to the normal growth of the body until adult size is attained; 2—the limitation of the oedema to one or both lower extremities, the area involved varying; 3—permanence of the oedema; and 4, entire absence of constitutional symptoms, or local symptoms aside from those described.

Three exceptions to the usual course appear. The first of these is the case of Charity in the third generation. Having been born with one enlarged foot, its growth was characterized by the usual phenomena until she reached the adult age. When about 20 years old she was thrown from a carriage, sustaining an injury in the sound leg. The immediate effects of the injury passed away within a reasonable time, but from this date the leg began to enlarge and continued to do so until it had attained enormous size, but, at the same time, in no wise interfering with the health or activity of the individual.

The second exception is the case of Julia, also in the third generation. At birth and until she was twelve years of age her extremities were normal. Then, being unaware of having sustained any injury, one of her ankles developed the appearance of having been sprained. The usual signs of a sprain, including pain, tenderness and swelling, were present to such a degree as to disable her for a number of weeks. Gradually all of the symptoms subsided with the exception of the swelling and this increased and extended until it involved the foot and leg. It still remains, but never again has it given her any inconvenience.

The third exception, and the most remarkable, is that of a male, in the fourth generation. Born with one enlarged foot, this grew in the usual manner until he arrived at maturity. Enlargement of the testicles then began and continued until they were so large that it was thought best to remove one of them and this was done. As the enlargement of the testicles progressed, the abnormal size of the foot diminished until it became normal and the enlargement has never returned. Unfortunately, the surgeon is dead who performed the castration, and I have been unable to obtain satisfactory information in regard to this most remarkable case. It is a question whether the enlargement of the testicle bore any particular relation to the family peculiarity, this not having occurred, so far as I am aware, in any other member of the family. But the fact remains that no other instance is known in which the oedema disappeared even temporarily.

The newness of the city and consequent dearth of medical libraries in Omaha is a serious obstacle in the way of the study of pathological and other questions here; and inasmuch as the literature at my command furnishes no aid to an understanding of this case, I wrote an incomplete account of it to Prof. Francis Delafield, of New.
York, and also to Prof. William H. Welch, of Baltimore, and I shall take the liberty to quote from these eminent authorities. In his reply Prof. Welch says: "The case described in your letter is of extreme interest, and I do not know of one altogether like it recorded in literature. I should be inclined to put it in the category of angio-neurotic oedemas. The congenital character of the affection and the existence of any of the ordinary causes of oedema, speak for this view." Prof. Delafield, whose reply was delayed for some time, says: "I have put off answering your letter of August 11th, until this late date with the hope that I might be able to give you some information concerning your very interesting case of dropy. I have found no report of identical cases." He offered no suggestion as to the nature of the disorder.

I am indebted to Prof. Welch for reference to a paper by Prof. Wm. Osier upon the subject of Angio-neurotic Oedema. This was published in the American Journal of the Medical Sciences, in April, 1888. Prof. Welch also stated that he had shown my account of the case to Prof. Osier, who concurred in the opinion that the case is one of angio-neurotic oedema.

Angio-neurotic oedema is a form of disease which is not so much as mentioned in any text-book or encyclopaedia that I have been able to find in Omaha. Most of my information upon the subject I have obtained from the paper of Prof. Osier already referred to, which contains, besides an account of his own cases, references to the very limited literature of the subject.

As long ago as 1833 it was described by Jamieson of Edinburgh, and a sufficient number of cases have been reported since that time by different writers, to show that it is not very uncommon.

Prof. Osler describes the attack in one of his cases, that of Mrs. H. as follows:

As long as she can remember she has been subject to attacks of transient swelling in various parts—hands or fingers, knee-caps, elbows, buttocks, arm or thigh in fleshy parts, face or more often the lips alone. The fingers have been so swollen that it was impossible to move them and once the ring finger was so greatly enlarged that the ring had to be filed off to prevent gangrene. The under lip has been swollen to such a degree that the mouth could not be opened and milk had to be poured in from above. A slight redness or itching of the part is first noticed, or a sensation of heat; the redness is not always present.

The effusion may take place with great rapidity. She often has red spots on various parts of the skin or irregular lines of redness without any swelling. The duration varies from one to four days. There is not much itching, particularly when the swelling is great, but a sense of distention and stiffness. When fully out it does pit but does so when going down. The attack may come on when she is feeling quite well or there may be slight indisposition. In all the severer ones there is abdominal pain described as colic with nausea and often vomiting. There is sometimes headache; no fever. The attacks have no relation to the menstrual flow. She rarely passes two weeks without an attack. She does not think that food has any influence on her case." This case is related as giving a fair idea of the character of the disorder, and Dr. Osler states that a review of the literature shows that all of the cases in respect to their symptoms and course are very similar. The hereditary tendency Osler found mentioned by three observers and it was very marked in the family studied by himself. The most distressing symptom, in most of the cases is the intestinal colic, which is so severe as to demand the administration of morphine.

Urticaria, which is a skin disease of
neurotic origin, has been often found to precede or accompany the attacks of oedema and it is evident there is a close relation between them. In speaking of the case to Dr. Gifford, he called my attention to the fact that there are certain subjects in whom an oedematous condition of the eyelids occurs without congestion. These attacks are transient and are provoked by a more or less severe use of the eyes.

Quincke is the author of the term "angio-neurotic oedema," basing the name upon the theory that the disease is a vaso-motor neurosis by means of which the permeability of the vessels is suddenly increased. However, in his letter, to which I have referred, Prof Welch says: "As to the pathology of angio-neurotic oedema we know nothing. Even our knowledge of the physiology of the vaso-motor nerves, does not explain how they could be disordered so as to cause oedema."

When the subject was first brought to my notice, it occurred to me, as a possible explanation that there might be a congenital absence of valves from the veins of the part affected. I was not aware that such an abnormality had ever been described and have not since been able to learn that it has been known to exist. If it did exist I do not know that it would cause oedema and, indeed, a more perfect knowledge of the family history brings to light certain facts that seem at first glance, at least, not readily to harmonize with this theory.

There is in my judgement, no pathological condition with which we are acquainted, to which the case which I have related corresponds in a greater degree than what is known as angio-neurotic oedema. Nevertheless, in most of the fundamental characteristics they are dissimilar.

Prof. Osler says: "Briefly summarized, the affection in the family which I have studied has the following characteristics:

1. The occurrence of local swellings in various parts of the body, face, hands, arms, legs, genitals, buttocks and throat. In one instance, possibly in two, death resulted from a sudden oedema glottidis.

2. Associated with the oedema there is almost invariably gastro-intestinal disturbance: colic, nausea, vomiting and sometimes diarrhoea.

3. A strongly marked hereditary disposition, the disease having affected members of the family in five generations."

On the contrary and strongly in contrast with this disorder in the family which I have studied:

1. So far as known in every case, with two exceptions only, the oedema was present at birth.

2. The location of the oedema has, in every case, been limited to one or both lower extremities.

3. The presence of the oedema is persistent, never having been known to disappear, temporarily or permanently, except in one instance.

4. It has never been attended by constitutional symptoms, barring the two possible exceptional cases, in which its first appearance was subsequent to birth.

From these considerations it seems evident that the case under discussion is not one of angio-neurotic oedema; nor would it seem probable from the history that any functional neurosis could be responsible for the oedema.

It is proper to say in this connection, that the account of the case upon which Prof. Welch based his suggestion as to diagnosis, was too fragmentary to admit of a fair judgment of it.

Inasmuch as we know nothing as to the pathology of angio-neurotic oedema, it may be possible that a correct consideration of its nature would show that the case in question belongs in the same category.

The nature of the primary influences which control the progress of transudation is still the subject of dispute among path-
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ologists. That the influence of the nervous system is important, at least in certain cases, is not denied. Nevertheless, we are still in so great ignorance of the matter that a discussion of it can give little result of value. In his work on "General Pathology," Payne remarks:—"Dropsy of nervous origin is caused by paralysis of the vaso-motor nerves, causing hyperæmia which, in combination with some obscure factor, leads to effusion." In the case which I have narrated the "obscure factor" appears to be very conspicuous. Whether or not the case be one of nervousœdema; it is offered, that with the help of others sufficient material may be accumulated to render possible an intelligent study of these unusual forms ofœdema.

DISCUSSION.

Dr. Bullard: "The paper is a very interesting one, and I congratulate the doctor on being able to secure so complete a family history of this interesting case. I would like to ask one question in regard to it, and that is: was an examination of the blood made?"

Dr. Milroy: "It was not, doctor. I would like, Mr. President, to ask Dr. Bullard why he asked if an examination of the blood had been made?"

Dr. Bullard: "I wished to know if there was any particular relation between the red and white corpuscles."

Dr. W. O. Henry: "It seems to me that this case is entirely different from the one referred to by Prof. Osler. The doctor's suggestion that, possibly, his was a case in which there was a deficiency in the valves of the veins, a lack of veins or a deficiency in some way, appears to me quite plausible."

Dr. Milroy: "I did not look for much discussion on the paper, because I do not think there is much to say about it. I have been wholly unable to find any literature on the subject, or touching upon it at all, with the exception of this paper on the subject of 'Angio-Neurotic Óœdema,' by Prof. Osler, to which I have referred. It is a matter, I think, which should be recorded, and it is with that idea, more than anything else that I have tried to make the history of the case as complete as I could. It is a form of disease (if it be a disease) that is certainly exceedingly rare, and the literature on the subject is extremely limited. It is only by the record of such cases as this that we may hope to secure or accumulate enough material with which to lay a foundation, or ground-work for the study of it, and by which we may hope to get at a correct solution of the difficulty, or cause of this pathological condition."

My own idea, as compared with the form of disease referred to by Osler, is that it can hardly be of nervous origin. The fact of its permanence is not characteristic of neurotic disorders and those kinds of diseases of which the neurotic skin affections are examples. And then, the fact of the persons affected not being of a nervous temperament (I have not referred to that point.) The gentleman, whom I have seen (a resident of this city) is anything but a nervous man. I have inquired, also, in that particular as to his family, and find that they are not people who are troubled with nervous disorders, at all; so I can hardly think that will explain it."

I referred to this possible explanation: the absence of the valves. In one or two cases that I have also referred to, it was difficult to account for the difficulty in that way. For instance: There were two of them who were free from it at birth—one of the cases being that of a woman who was thrown from a carriage and injured; and œdema developed after that time. The other case was that of a girl twelve years of age, who developed a sensitive ankle, or, at least, an ankle which seemed to have been sprained, though she did not..."
know that it had been hurt at all; and from that developed this oedematous condition of the leg. In those cases if the oedema were caused by an absence of the valves, or any congenital malformation of the parts, it is rather difficult to understand why the oedema did not appear early.

Then in the case of the individual who had enlargement of the testicle (this seems really rather fishy, but the facts are vouched for on good authority) whether there was any connection between the enlargement and the disappearance of the oedematous swelling after its removal I am unable to say. I cannot understand how that could be; yet, as I have said in the letter of the 22d of August, there is no record of any case in which the oedema disappeared, except this one in which the enlargement of the testicle existed.

The members of the family have been very long-lived, and there is no record that I can find of an attempt to treat the disorder or to remove it. By them it has not been regarded as anything serious, and certainly has not appeared to shorten the lives of the persons affected. Furthermore, they have been very active men. One of the men, to whom I have referred, who had both legs swelled so that they looked like sawlogs, was more than seventy years old, raised two families, lived on a farm, was a remarkably active man and had never been sick. That is just an example. So that it is certainly a curiosity, and it is not with any expectation of any discussion of it or with a view of getting treatment, or anything of that kind that I report this case to the society, but simply as a matter of interest to the profession.
INTERSTITIAL NEPHRITIS.

W. O. BRIDGES, M. D., OMAHA.

In selecting the above subject for a paper I have done so with a view to call your attention to a disease which experience has led me to believe passes through its earlier stages unrecognized to a greater extent than any disease with which I am familiar, and also to insist upon the simplicity of its relatively early diagnosis and the means at our command for its timely management.

By interstitial nephritis is meant an inflammation of the connective tissue of the kidney, always chronic in character, and in accordance with the unvarying law of connective tissue proliferation leading to contraction of the organ, and consequent atrophy of the excreting apparatus, hence occasioning what is known as the cirrhotic or contracted kidney. I wish here to emphasize the discrimination between interstitial inflammation of the kidney occurring de novo, and as a sequel of chronic parenchymatous nephritis. It is with the former that we have to deal. I stated that in a large proportion of cases, this disease passes unrecognized until the manifestations of its later stages appear, and the probable reason is found in the want of uniformity of its early symptomatology and the absence of such indications pointing to kidney disease as usually lead us to examine the urine. To illustrate, I will briefly cite a few cases which have come under my observation in the past few years:

CASE I.—H. N., aged 28, was a clerk by occupation; he had had scarlet fever in childhood, recovering without known complication or sequel. He had not been in robust health, and was occasionally troubled with an eczematous eruption of the hands. He had consulted physicians several times during the preceding year or two for debility, depression of spirits without known cause, and had taken tonics with temporary benefit. The preceding winter he had complained of shortness of breath on exertion, but this was attributed to general debility. Suddenly one night he was seized with an asthmatic paroxysm followed by a cough and bloody expectoration. This was repeated on the two following nights, each being relieved by dry cupping over the chest. Before the third attack he felt able to attend to his duties in the day time, but following this one he had a temperature of 101°, and fine moist rales were manifest over the entire chest. The countenance was pale, lips colorless, no edema. An examination of the urine for the first time showed a specific gravity of 1007, and a trace of albumen. On close questioning he stated that during the past one and one-half years he had been in the habit of rising earlier than usual to urinate, and latterly the amount had increased considerably. There was no edema, no dyspeptic symptoms, no headache. The heart was markedly enlarged, the apex beat being an inch below and to the left of the normal. There were no murmurs, but the second sound was much accentuated. A diagnosis of interstitial nephritis was made. From this time until his death, six months later, the chief symptoms were referable to the respiratory system; paroxysms of asthma, mostly at night, fol-
owed by two or three days of pulmonary congestion and edema, severe dyspnea, attacks of edema of the glottis of very short duration and always terminating in intense swelling of the soft tissues about the larynx. At these times suffocation appeared imminent, and was relieved only after hypodermics of pilocarpine. Frequent examinations of the urine showed albumen in varying quantities; always slight, specific gravity never reaching above 1009, amount from two to three quarts daily, very pale in color. Occasionally there was slight edema of the feet and eyelids, and towards the last he had nausea and some vomiting. He died in uraemic coma.

CASE II.—Was a grain dealer 40 years of age, who had contracted a venereal sore in his early manhood which was pronounced specific, and which disappeared under mercurial treatment kept up for only a few months. There were no secondary developments. He had a resilient stricture of the deep urethra, which necessitated the use of the sound once a month; this had been resorted to for many years. For a year previously he had been troubled with periodic headaches which were followed by slight dyspeptic symptoms, and he had lost 30 pounds in weight. Latterly the headaches had become more frequent and severe, and he had consulted several medical men who pronounced his attacks bilious in character, and treated him accordingly, with temporary improvement. His headaches were peculiar, occurring always at 4 o'clock in the morning, and becoming so severe that he was obliged to rise and pace the floor until his servant could prepare very strong coffee, which afforded sufficient relief to enable him to rest again. By noon of the same day it disappeared and left him weak, and with slight nausea. The attacks recurred weekly on the same day at the time he consulted me, and I was inclined to the diagnosis of malarial infection. He was therefore given calomel and large doses of quinine preceding the expected attacks, which served only to postpone them, the effect probably being from the calomel. A more thorough examination now revealed slight edema at the ankle, and the urine was pale in color; specific gravity 1009, no albumen. A subsequent examination showed a trace of albumen; quantity in 24 hours, three quarts. All treatment gave only slight relief to the headaches; some of the seizures were so severe as to necessitate chloroform anesthesia. He was growing worse as the fall advanced, and on my advice he went to Southern California. Here he remained until the following May having only one attack soon after his arrival in San Diego. He improved in every way except he did not regain his flesh. He returned here to his work apparently well. Urine still increased in quantity, specific gravity varied from 1011 to 1013, only occasional traces of albumen, no edema, no dyspepsia. Improvement continued during the summer; as the fall advanced his headaches returned, and in spite of the warning given by their increasing severity and frequency, and my advice, he delayed returning to the sunny clime until December. On the way his train was delayed by severe storms in the mountains; he took cold and developed uraemic convulsions which continued irregularly until he died several weeks later in coma.

CASE III.—L. K., a female servant aged 27, had not been well for two years, during which time she had been treated by several physicians for heart disease and bladder trouble. Symptoms of bladder irritability had been manifest in frequent desire to urinate for many months, and latterly the urine was always cloudy. She had very slight puffiness of the lower eyelids, and there was occasional edema of the feet. Nausea and vomiting occurred frequently, and at times the stomach
would not tolerate any kind of food for several days. The heart was much enlarged, and a mitral systolic murmur detected. The urine increased to over two quarts in 24 hours, and contained so much sediment consisting of pus and stringy mucus, that it was necessary to filter each specimen before the urinalysis could be completed. The color was pale, specific gravity 1005, albumen in very small quantity; large hyaline casts were found under the microscope. A diagnosis of cystitis, interstitial nephritis, and mitral insufficiency, was made. She has been under my observation for nearly two years.

Rapid improvement followed treatment of the cystitis, and she resumed housework. Several examinations of the urine have shown a specific gravity varying from 1002, which was found more than once, to 1007, and always a trace of albumen. In the absence of any rheumatic history, I considered the heart trouble secondary to an interstitial nephritis.

Case IV.—M. A., aged 27, had been a sufferer from dyspeptic trouble for two years. She had lost flesh, and was in very depressed spirits. Diphtheria in childhood without known sequel, was the only illness reported previously. All treatment had been directed to her stomach difficulty, and she was discouraged at its failure to relieve. There was no edema, the heart was enlarged without valvular lesions. She excreted three quarts of urine in 24 hours. It was pale, specific gravity 1009, and contained albumen in small quantity. Several subsequent examinations gave about the same result. A consultation with an Eastern physician of note corroborated a diagnosis of interstitial nephritis, and she was advised to remain in Southern California one year. There she improved rapidly, her dyspeptic trouble disappeared, and in nine months she had gained twenty pounds, when she returned home. The urine was still increased in quantity, was pale, specific gravity 1015, no albumen. In the past year and a half she has lost and gained alternately; lost during her stay at home, and gained when in a warm climate. Her principal complaint is of dyspepsia and depression of spirits. Occasional traces of albumen are found in the urine, and the specific gravity is persistently subnormal.

The above all represent cases which had gone on with varied symptoms from one to two years without a diagnosis of nephritis having been made.

Symptomatology.—Probably the earliest symptom of interstitial nephritis is an increase of the quantity of urine excreted, but this is so gradual, and is so insidious that the patient’s attention is hardly attracted to it until long after other symptoms have developed, in fact very often it will not have made an impression upon him until the physician makes special inquiry concerning it. This will have been manifest by a desire to empty the bladder earlier than the accustomed time for rising, and as time goes on the patient is obliged to get up earlier and sometimes several times during the night. Gradual loss of flesh, decreasing strength, anorexia, depressed spirits, paleness of the skin and particularly of the mucous membranes are common to all cases. Localized edema is probably present at some time in every case, but it is not an early symptom, and is most frequently found affecting the lower eyelids or the connective tissue above the ankles. It is so slight at times as to be scarcely perceptible, and careful examination for pitting on deep pressure only reveals it. Occasionally edema occurs in unusual locations as is shown in one of the above cases referred to, where it appeared in the soft tissues over and about the larynx. There is hardly any region where it does not occur, but it is to be remembered that it differs from edema occurring in other varieties of nephritis in being
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transient and regional. Like that in all varieties it is my experience that it is worse in the morning than at night, a fact which is not commonly mentioned.

The heart is usually enlarged, and the degree of the hypertrophy corresponds to the duration of the disease, and probably to the diffuseness of the inflammation. In this connection the pulse is hard, incompressible, and the radial artery can be felt nearly to the elbow, a condition which represents a change in the arterial wall, which is supposed by its increased resistance to be accountable for the cardiac hypertrophy. Other symptoms have reference to the digestive, respiratory and nervous systems, and are by no means uniform. As a rule the indications point so strongly to one of these, that in the absence of other well marked evidences of kidney disease, an error in diagnosis is commonly made, and the patient supposed to have some affection of the stomach, the lungs or the brain.

Probably in most cases the digestive organs appear at fault. Distress after eating, nausea, vomiting, torpor of the liver, at times constipation, and again diarrhoea, are the most frequent. In another class: headache, extreme nervousness, sleeplessness, mental depression, and later convulsions, followed usually by coma, are found; and in still another, attacks of pulmonary edema and congestion, bronchitis, asthma or affections of the glottis make up the marked part of the clinical history. There is a peculiarity about any or all of these classes of symptoms, however, which I have learned from observation, and that is their explosive and intermittent character. This was markedly illustrated in two of the cases above reported—so much so in one that I was inclined to regard the case as one of malaria, until my error was suggested by a failure in the treatment advised. These outbursts are undoubtedly due to an overdose of urea, and hence occur only after the disease has made considerable progress. Eye symptoms, not uncommon in other varieties of nephritis, are infrequent in this, but toward the last, when uraemic poisoning is more marked, there is a sluggishness of the pupillary reflex, which gives to the eye a vacant expression; very seldom temporary amaurosis occurs.

The urine always presents indications which are characteristic of this affection, and if intelligent urinalyses were more frequent in the daily investigation of cases, fewer patients would go on to advanced cirrhosis of the kidney unrecognized. The color is pale, amount increased, specific gravity subnormal, and these conditions are constant. Albuminaria may or may not be constant. It is generally slight in amount, and frequently repeated examinations at intervals are essential before it is found. The presence of casts is also variable, and when detected they are of the hyaline character.

The etiology of interstitial nephritis is somewhat obscure. Opinions differ as to the relation of the ordinary causes given in books: syphilis, spirit drinking, lead poisoning and hereditary influences, to this disease. Frequently other conditions existing in an individual may be assumed to act as an exciting cause. In two of the cases before referred to I believed chronic inflammation of the urethra in one, of the bladder in another to be the cause. In the other two there was no ascertainable cause unless it existed in a preceding diphtheria in one, and scarlet fever in the other. Could not these diseases in childhood be the cause of an interstitial inflammation of the kidney which progressed so slowly as not to be recognized until adult life, or could not a parenchymatous inflammation the result of such a disease be recovered from and yet start the interstitial inflammatory process? In view of the well-known fact that diphtheria and
scarlet fever have a strong affinity for the kidneys, and that interstitial nephritis is not so infrequent before thirty years of age, I think it reasonable to answer these questions in the affirmative.

The diagnosis is not difficult. The reason for its delay is found in the apparent indifference on the part of the physician to investigate the condition of the urine, and the absence of well defined symptoms pointing to the kidneys as the seat of disease. The patient is always ready to state that his urine is all right, that it is as clear and free as possible, and his medical adviser is too apt to accept this explanation as denoting absence of kidney troubles. In practice I have come to make urinalysis as frequently as I look over the lungs and heart in examining patients, and in all cases presenting clinical histories not corresponding to recognizable disease or conditions, or in apparently simple troubles not yielding to treatment, my first thought is of the urine. An error which I believe to be widely prevalent too, is the dependence which is placed upon the presence or absence of albumen in determining an opinion of the condition of the kidneys. A urinalysis for practical purposes is not complete without noting quantity of urine in 24 hours, color, reaction, specific gravity, presence or absence of albumen, and without such, one is not justified in reaching a conclusion as to renal disease. The urine must be depended upon in the diagnosis. If then in a given case presenting any phase of the clinical history already cited, the urine be found constantly increased in amount, of pale color, low specific gravity, to contain albumen in small quantities, occasional or constant, we are justified in making a diagnosis of interstitial nephritis. I would not hesitate to pronounce upon a case which presented only the above urinary conditions, with hypertrophy of the heart, without another symptom—in fact a low specific gravity and a trace of albumen alone are strongly suggestive, and if constant, a diagnosis would be corroborated by the subsequent history.

This disease should be discriminated from other varieties of nephritis as the differentiation has a marked bearing on the prognosis. Chronic parenchymatous nephritis is attended with constant edema, oftentimes anarsaca, the heart is not so constantly enlarged, the urine is not so increased in quantity, has more color, always contains albumen in considerable amount, and the specific gravity is subnormal and may be increased in the early period. The disease comes on more rapidly and runs its course in a shorter time. If prolonged for a number of years interstitial inflammation is a consequence, and we have a mixed disease, which presents more the history of the latter, but the entire clinical history will enable us to determine its commencement in the former. Acute parenchymatous nephritis would hardly be confounded. The urine here is of high specific gravity, contains even a larger amount of albumen and is less than normal in quantity.

Pathology.—Many years ago Gull and Sutton called attention to a general arterial sclerosis which was found in all cases of interstitial nephritis, and after studying carefully many hundreds of autopsies in which these conditions were associated, in some of which there had been no evidence during life of any kidney affection, the patient dying of an intercurrent disease, they maintained that the nephritis was but a local manifestation of a general pathological process having its origin in an inflammation of the intima of the blood vessels; in other words that the cirrhotic kidney was a constitutional rather than a local disease. They explained on this theory the dependence of the cardiac hypertrophy upon the interference with the general circulation oc-
casioned by rigid arteries. Pathologists are still divided as to the correctness of this theory, the opposition maintaining that the arterial sclerosis is the result of chronic uremia, and occurs in other varieties of chronic nephritis, and, also, that if the constitutional theory was correct the inter-cellular tissue of other organs than the kidneys would be equally involved. Certain it is any way that the disease is manifest in an inflammation of the connective tissue structure of the kidney, which leads to contraction and consequent atrophy of the excreting portions. This process may or may not be equally diffused through the organs, hence the variation in the duration of the disease.

**Prognosis.**—As to absolute recovery the prognosis is most unfavorable, yet the disease may last for many years, and the patient be in apparent good health. Conditions of climate, occupation, habits, so affect the disease for better or for worse, that the subjects, so to speak, hold their lives in their own hands. Acute inflammatory diseases as intercurrent affections render the prognosis as to time, unfavorable, and particularly is this so of acute nephritis, which is most liable to precipitate a fatal acute uremia.

**Treatment.**—Nothing is to be expected in the way of a cure, hence all efforts should be directed to retarding the progress of the affection. A kidney which is the seat of interstitial inflammation is a permanently damaged kidney, and it should be relieved of its work to the greatest possible degree. The chief indications to this end have reference to limiting the production of urea and its compounds in the economy, and attention to the healthy action of those organs which act supplementary to the kidneys, namely, the skin and bowels. The first indication is accomplished by a restriction of the ingestion of urea producing foods to the lowest point consistent with good nutrition, and the avoidance of all articles which are not easy of digestion and transformation into tissue building elements. With these objects in view it is that milk alone has for many years been selected as the ideal food in kidney diseases. That it has any specific or curative effect I do not believe. When it can be well borne and taken in sufficient quantities it certainly answers an excellent purpose, but milk is a much abused food; few patients will admit that they can take it in such quantity as is considered necessary to sustain life. One of mine was quite rebellious until he learned not to drink it, but to sip it, and consumed three-quarters of an hour taking a quart. This he kept up three times daily for nearly a year before he increased his diet, and then he was not anxious to do so.

The second indication is to keep the skin active—constantly active—not by depleting measures, but by the natural method, a warm atmosphere, and this should be as uniform as can be found. I believe the climatic treatment of all forms of chronic nephritis is of greater importance than that of phthisis. Two objects are attained by a warm climate which presents the slightest variations the year round, the production of a constant perspiration and the freedom from the possible danger of sudden chilling of the surface, and I believe it is a mistake for patients who are able to permanently take up an abode in such a place not to do so. Temporary residence only involves climatic changes, which are too often productive of harm. The chief indications having been fulfilled, other treatment has reference to management of symptoms which will vary in different cases.

**DISCUSSION.**

Dr. Lowry: "I desire to say that this paper is a most excellent one. I am afraid
many of us diagnose various troubles without giving our patients thorough examination. One of the lessons the paper teaches me, and which my experience also teaches me, is, that this class of cases requires our best attention and care in diagnosis; and we need to be especially careful in all cases where there is a susceptibility or likelihood of kidney trouble.

Dr. Gapen: "I presume most of us are more or less in a fog with regard to the differential diagnosis of the various forms of kidney disease, but there is, to my mind, a fixed line upon which I base my conclusion, and that fixed line is the albuminous condition of the urine; and especially if this is associated with a lowering of the specific gravity, and a reduction of the normal quantity passed. When a patient of mine shows these symptoms, I advise that patient, under all circumstances, to take up his residence permanently in a climate such as that of Southern California; that he cannot hope for permanent recovery outside of such a climate. The only case of recovery from well-marked Bright's disease I have known was the case of a physician who recovered by living upon grain. He made a very satisfactory recovery, and after that his condition of health continued for three years to my own knowledge. Whether it will be permanent I do not know. I think the medicinal treatment has very little effect, but it is the climate that is especially beneficial and desirable, and productive of good results. I have known persons in business life who lived in a northern climate until serious complications would compel them to go south; they would then return to the north and finally lose their lives by persistently sticking to business, instead of taking up their residence in a suitable climate.

"With regard to climate, from my own experience, I would say that the climate of the eastern portion of the southern country is not so well adapted for patients suffering with this trouble as is the southern portion of the western country. That is to say, the Florida climate is not at all as good as that of California, in that the latter climate induces more or less activity of the skin. The rainfall in California is very little or small for the reason that the earth is warmer than the atmosphere. In Florida the earth is not so much warmer than the atmosphere, hence there is not that activity of evaporation which is desirable. In California evaporation goes on actively, which not only induces perspiration but carries it off, giving an opportunity for still further transpiration to take place. In Florida the conditions are not so satisfactory, evaporation is slower and one's body is not relieved so much in that climate as in that of Southern California."

Dr. Humphreys: "I think this paper is fraught with especial interest to the members of this society, because disease of the kidneys, or Bright's disease, is one that the patient nearly always overlooks until it is too late to be of any benefit to him. If this will impress each member present with the importance of making an early diagnosis in Bright's disease of the kidneys in its various forms, we have accomplished a purpose. The symptoms are certainly prominent, if we will fix them in our minds, but we are often too careless and inclined to attribute the symptoms to some very trifling indisposition. For instance, take the stomach, which is usually one of the first organs to suffer in that form of Bright's disease. The patient comes to you with symptoms of sick stomach and headache, and those two symptoms alone ought to direct your attention to the condition. It is only in the early stages of Bright's disease that we may be of service. Of course, the various forms of Bright's disease is quite curable in the early stages."

"Now, so far as the climate for these patients is concerned, my opinion is that
they should be sent to a southern climate and a dry climate; and I think that Mexico or Arizona, or possibly Texas, would be better than either Florida or Southern California, as that climate is not just exactly what it is reputed to be. I have spent several months there myself, having a sick wife there. The winters are horrible; there is a great deal of wet weather there, and while it is not raining, the fogs are very prevalent, especially in the morning, and up to ten or eleven o'clock in the forenoon. If you are anywhere near the coast you are enveloped in a dense fog. I think New Mexico is much better than either Florida or California.

"So far as what we can do for these patients is concerned, as Dr. Bridges stated in his paper, we must arouse the secretions and do what we can to arouse the action of the kidneys causing these acute attacks. In them the urine is usually suppressed, while in interstitial nephritis the urine is usually from three to half a dozen quarts in twenty-four hours. If the patient is exposed to cold his urine will be almost suppressed. In these cases we must do what we can to excite the action of the kidneys and especially the bowels and for that purpose should use saline purgatives, especially the sulphate of magnesia; that is the remedy of all remedies. To flush out the bowels will relieve your patient very much. If uremic coma set in and it cannot be overcome with the proper remedies, I would resort to the hot water bag, which is a very simple method. In that way you can in a very few minutes freely sweat your patient, which will very materially aid in his recovery.

Dr. Ball: "I should like to ask Dr. Bridges whether he considers oedema of the eyelids pathognomonic of interstitial nephritis."

Dr. Bridges: "As I stated in my paper my idea was simply to map out the most practical points in connection with the disease in order that a full and free discussion might result.

"Now, with reference to the existence of albumen, I mean to say that it may or may not be constant in this disease; that its absence does not involve the absence of interstitial nephritis. But I believe the specific gravity of the urine is of much more consequence, and that is where I maintain the mistake is usually made. One case which I had under observation was a man who had been within a year accepted for insurance in one of the best Life Insurance Companies in this country, but the specific gravity of the urine was not examined at all. Now, it is very common to examine a specimen of urine for albumen and, if it looks clear and free from sediment, to pronounce it absolutely normal, without examining the specific gravity at all. I would place more reliance upon a low specific gravity, or subnormal specific gravity, when persistent, than I would upon the presence or absence of albumen. I have seen cases of nephritis go on without the presence of albumen being detected by the ordinary means.

"With reference to the kind of Bright's disease that was referred to as being curable: that remark brings up a subject which I believe is of considerable interest to the profession, and that is the popular term, 'Bright's Disease.' I believe that the use of this name brings more confusion to the profession than any other one name with which I am familiar. And I would just as soon class pneumonia and pleurisy with consumption and call it all consumption as to class all varieties of kidney disease of an inflammatory character under the head of Bright's disease. Now, we all know that acute Bright's disease is not uncommon, and particularly following scarlet fever. Probably a large proportion of cases go through the inflammatory process to ultimate recovery; whereas, some of the chronic forms get well in a cer-
tain proportion of cases, interstitial nephritis never gets well at all; that is, it is not curable. We are, therefore, led into confusion by the term 'Bright's disease.' A year ago, before the State Board of Secretaries, in a petition for a certificate upon the part of a quack in this city, there was quite a lively controversy between the quack on one side and an expert on the other—one maintaining that it was curable and one that it was not. They were each right in their own minds and according to their theories, probably. I only mention this to show into what confusion this may bring the profession by the indiscriminate use of that term. I think when we call any disease after a man's name we make a mistake, and that we should call the disease according to the pathological process or something in its symptomatology, that would determine every distinct disease.

"With reference to the question of climate, I agree with Dr. Gapen entirely that the climate of Southern California is a good one, as a rule; but I also disagree with the other gentleman that the climate of Texas is better than California. Our object in this disease is to secure the climate which presents the most uniformity of temperature all the year round, without reference to rain-fall. In these cases we must promote activity of the skin in order to relieve the kidneys. The climate that is variable is damaging because of the additional work put upon the kidneys. The object is to promote a constant transudation through the skin, and, therefore, a constant temperature is what we want. Statistics show that Southern California, or that vicinity, presents the least variation of any climate in the world, and therefore it is, that I believe the climate of Southern California is best adapted to these cases.

"Now, I think we are all making a mistake in considering the climatic treatment of all diseases in the same category. While I claim the climate of Southern California is very good in the treatment of the disease, interstitial nephritis, I think it is one of the worst climates to send consumptives to. I think there are better climates for that class of cases, as there is too much rain-fall there. We seek, therefore, a dry climate for cases of consumption.

"With reference to the question concerning oedema of the eyelids, I would say that I do not consider it in any sense of the word pathognomonic of any variety of Bright's disease.

"We see oedema from other diseases and we see oedema of the eyelids, as was referred to by Dr. Milroy in his paper this morning without any manifestation of any other disease whatsoever; I believe he spoke of it as a suggestion made to him by Dr. Gifford, that he had seen oedema of the eyelids in simple cases of eye trouble where there was no manifestation of kidney or organic disease. It is said in the books that oedema of the eyelids is one of the first symptoms recognized in chronic Bright's disease—the large white kidney. Oedema of the eyelids would be much more manifest to the patient than oedema of almost any other region. But in any event, I believe there is this point about the oedema of all varieties of Bright's disease which I have noticed, particularly in cases that have come under my observation, that oedema is worse in the morning than at night, and in this way it is to be discriminated from oedema occurring from diseases of the liver and heart."

Dr. Conwell: "I want to ask a question with reference to the specific gravity. I would ask the Society what they would conclude was the trouble with a patient who had no specific gravity, without any other symptoms? I had occasion to examine a young man about 22 years old, for life insurance, with that result. No
symptoms, except there was no specific gravity to his urine; in other words, it was the same as river water."

Dr. Bridges: 'I don't know that I can answer that question. The specific gravity represents the amount of urea that is eliminated from the system; and if it reaches lower than normal and these features are constant, I should be highly suspicious that other symptoms of kidney trouble would subsequently develop. You all know that the color and specific gravity of the urine in persons of health are slightly affected by the amount of liquids ingested. If we drink a lot of water and the skin is not particularly active the specific gravity is lower. In summer when the skin is active a less amount is eliminated by the urine, which becomes higher in color. Therefore, I believe that frequent examination of the urine in these cases can help very much in determining whether there is any permanent trouble, or whether it is simply transient. I believe in the existence of what is called 'transient albuminuria.' I believe it can exist in the urine without showing much trace of it; and, therefore, I would say that the specific gravity may be oft-times sub-normal without representing any organic affection. And I would regard a persistent low specific gravity with more suspicion than I would a high specific gravity without other symptoms.'

LAPAROTOMY — COMPLICATIONS — AFTER TREATMENT.

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Several pathological specimens were shown to illustrate some of the complications encountered in pelvic surgery. A detailed description of them will be given at another time.

Our paper to-day shall be of a strictly practical character, and I will endeavor to confine my remarks entirely to my own personal experience in the management of cases after abdominal section.

The cases from which these experiences have been gained are a series of forty consecutive operations, comprising a large variety of conditions for which laparotomy was deemed necessary. The operative technique has been so much written about, that it shall form no part of our discussion today. I have often found that the operation itself is simple as compared to the skill necessary in the management of the case, beginning almost with the very moment that it leaves the operating table.

It is usually not a difficult matter to decide in an instant in what manner to best meet the difficulties as they present themselves, when the abdominal cavity is open, but after the peritoneal cavity is closed, the perplexities, and doubts, and indecisions can only be realized by those who have experienced them.

It is true that improved technic and greater observance of aseptic details, have not only reduced the mortality but have much simplified convalescence, so that many laparotomized patients are convalescents almost from the hour of their operation.

Of these forty cases seven have died. The first: large fibroids of both ovaries, the pedicles were very short and fragile and tore on the least manipulation, making it very difficult to secure them. I think our fault lay in omitting drainage. The second death was after a Cæsarian section. About five hours of almost continuous efforts at delivery had been made by the attendants when an operation by abdominal section was done; death followed from exhaustion. The third death was due to peritonitis following the removal of badly adherent ovaries and tubes. The fourth death was in a young girl supposed to be suffering from intestinal obstruction. An exploration of the entire intestines failed to reveal any obstruction. The alarming symptoms were due to a very extensive and violent peritonitis. The fifth
death was due to a complete paralysis of the intestines after an abdominal hysterectomy for fibroid. The sixth: shock following abdominal hysterectomy. The seventh to nervous exhaustion after salpingo ovariectomy.

To do successful abdominal work, it is absolutely necessary to have the assistance and co-operation of a faithful, untiring, trained nurse. Several of our most desperate cases have been saved by the skill and unremitting attention of a skilled nurse. To every case of laparotomy a single nurse was assigned, giving it her undivided attention, and she remained with the patient until convalescence was fully established. She must be able, aside from attending to the wants and comforts of the patient, to administer hypodermics, catheterize, introduce the rectal tube, give all forms of enemata and cathartics to move the bowels and know the indication for these without special instruction from a physician. She must be able to distinguish between shock and internal hemorrhage, so as to give the surgeon timely warning, if bleeding occurs, that he may employ such measures as are necessary at the earliest possible moment.

Before relating my experience with complications, post operationem, permit me to detail our usual plan of the management of uncomplicated cases.

As soon as the most essential parts of the operation are completed and the introduction of the abdominal sutures is begun, a nurse is requested to inform the anxiously waiting relatives or friends who may be in the parlor or waiting room, that the operation has been completed. No one can appreciate the relief of this announcement except he who has endured the suspense pending an operation upon a near relative or a very dear friend.

Before applying the dressing, special care is taken to see to it that the patient and her clothes are absolutely dry. The clothing consists of a flannel vest and ordinary clean night-dress, no drawers, because they are a source of discomfort; the long woolen stockings which are worn during the operation are removed as soon as the patient is placed in bed. To have the lower extremities free from all clothing gives much comfort, and stockings should only be worn in cases of shock. The room to be occupied is thoroughly cleaned and fumigated the evening before the day it is to be occupied by the patient, when there is time. In emergency cases this cannot always be done. The bed has been prepared by pinning a sheet smoothly over the mattress, over this a rubber sheet and a sheet and draw sheet tight and smooth over that. The bed has been warmed with hot water bottles. If the operation has been a long one, a woolen blanket is laid over the sheets, the patient laid on that and wrapped up in it. Hot water bottles in bags made of woolen blanketeting are placed about various parts of the body. The bottles and blankets are removed in one to two hours or until reaction has fully taken place. The blanket is laid over the patient over a clean sheet.

If there is pain when recovery from the anesthetic has taken place, we are in the habit of giving one-half grain of codeine hypodermically and morphine only when the codeine fails. If pain is slight the patient is encouraged to do without an opiate. For ten to twelve hours absolutely nothing is given by mouth. If thirst is excessive, rectal enemata of five to six ounces of hot water are given every two or three hours. After twelve hours the mouth can be rinsed with cold water every one or two hours, but none must be swallowed. If there is a nausea, water as hot as can be taken is given. At the end of twenty-four hours milk and lime water, are given frequently in teaspoonful doses until the end of forty-eight hours, when milk four parts, lime water one part are given in small sips every ten or fifteen minutes, so
that one-half pint is taken every four hours. If the milk given in this way for twelve hours is well borne and has produced no flatulency, a little weak tea or coffee may be allowed, about four or five hours later, gruel or arrow root is allowed and during the night a little milk and barley water. At the end of the third day a little milk or custard pudding is added, at the end of the fourth day a little dry or milk toast, at the end of the fifth day add soft boiled eggs, oysters; at the end of the sixth day boiled vegetables; on the ninth meat, vegetables and fruits.

The bowels are moved on the second or third day by the aid of Rochelle salts or Seltzer Aperient, assisted if necessary, by glycerine-turpentine enema. The sutures are removed on the eighth or tenth day. The recumbent position is insisted upon for three weeks.

If after the operation a subnormal surface temperature is found, due to shock, hemorrhage or anesthesia, the cutaneous circulation is restored by vigorous friction with the hand, the application of artificial heat and the administration of stimulants per rectum. Lowering of the head and elevation of the extremities, sometimes produces marvellous effects. If gastric irritation alone is responsible, codeine in doses of one to two grains hypodermically was often followed by the happiest results, in fact, so often there was such a sudden transformation from extreme exhaustion and most distressing pain to a calm, quiet sleep and complete relief from gastric distress, that we give it now with the utmost confidence. Occasionally, however, it will fail and then we sometimes found one-half grain hypodermic doses of morphia to put an entire new aspect upon the case. Small doses of morphia are worse than useless to allay vomiting.

The most troublesome condition to overcome when reaction after operation has taken place, is vomiting due usually to the anesthetic. Sulphate of morphia in one-fourth grain doses was always given, hypodermically, before the beginning of the anesthetic, which unquestionably diminishes the tendency to gastric disturbances post operationem. But we occasionally have nausea and vomiting to contend with, causing profound and sometimes alarming exhaustion. If the vomiting is due to disturbance of the cerebral centres, a lowering of the head and elevation of the extremities, sometimes produces marvellous effects.

The attending physician will frequently give warning, that his patient can bear no morphine. I have several times permitted myself to be misled by this unfounded advice much to the detriment of the patient. In one case, after the removal of a pyosalpinx, the vomiting continued for forty-eight hours to such an alarming degree, that death from exhaustion seemed imminent. A long list of remedies by stomach, internally and externally, and by rectum had been tried, but no relief. The warning against opiates had been emphatic. When the state of affairs had become extremely alarming, we concluded to give a three-fourth grain dose of morphia hypodermically unbeknown to the patient, and behold what a change, every symptom im-
proved immediately and a good recovery was made.

In another case, where the family physician was in attendance after the operation: the patient, an extremely neurotic girl of 23 years, it was claimed that opiates in any form could not be borne. There was much pain, extreme restlessness, gastric irritation, weak pulse, no temperature. All the substitutes were given without effect and when exhaustion was almost complete, we resorted to morphine, followed by tranquil sleep, but the nervous forces, of which she had only a limited supply to begin with, had been exhausted, she gradually sank and died. I have found that in cases where it is claimed that opiates excite and aggravate the individual, the effect has always been produced by small doses, and after an operation, if an opiate is indicated, a large dose is administered, which almost invariably has a good effect. Majendie’s solution is often of much benefit. Copious draughts of hot water often afford relief from nausea. Lavage of the stomach was resorted to, with good effect, in one case. Local mustard plasters have proven beneficial by revulsion. If emesis is due to elimination of ether by stomach, aromatics, as foenugreek and anise in hot water, are beneficial, spearmint, peppermint, charcoal, aromatic spirits of ammonia in hot water have frequently proven of service in vomiting. I have seen no beneficial effects from creosote, carbolic acid and iodine in vomiting due to an anesthetic.

Sometimes sixty to one hundred grains of chloral hydrat, in divided doses of twenty grains each every two or three hours, will allay vomiting.

Pain in the wound is often severe and was sometimes relieved by dry heat. A plate heated and wrapped in flannel applied over the abdomen is often beneficial. This pain, however, passes off in a few hours and if not too severe, the patient should be encouraged to bear it without an opiate if possible. If necessary, however, codeine or morphia with atropia are given hypodermically.

Restlessness unaccompanied by pain was often relieved by friction, alcohol bath, hot vaginal douche, or sedatives by rectum, such as velerian, hyoscyamus and chloral hydrat. Bromides should be given by stomach, if they are retained, and produce no gastric disturbance, but if they are not retained then by rectum. It is very important to quiet restlessness for it may seriously complicate recovery.

Sleeplessness should always be relieved; sulphonal by mouth and chloral hydrat per rectum were chiefly used.

Thirst was often distressing and was complained of more or less by all, due chiefly to the anesthetics, producing rapid evaporation of the body fluids. Hemorrhage nearly always causes thirst, owing to a reduced arterial tension and lack of the normal quantity of body fluid. Occasionally, but not very often, this craving of the system for fluids can be satiated by giving fluids by mouth, but the better plan is to rely upon warm, never cold, rectal enemata of four to six ounces at a time, and repeated as frequently as will be borne. The resorbtion of fluids by rectum is enhanced by the addition of common salt.

Flatulency is nearly always present and gives much distress. This condition is due to a loss of tone of the gastric and intestinal walls. The most effective remedy is early and free catharsis. In the way of palliation, there is nothing more effective than the introduction of a rectal tube. The glycerine-turpentine injection has been of great value, and we use it in nearly every case, not only to relieve flatulency, but to move the bowels. We have several times added to the enemata sulph. magnesia one to two ounces with good effect, also Labarraque’s solution, assafoetida or oxgall. The latter remedy has several
times' proven a life saving agent, for example, the following case. During the removal of a large multilocular ovarian cyst, many firm adhesions were encountered, requiring much time and perseverance to overcome them. The traumatata to the intestines were severe and extensive. There was great prostration, vomiting after the operation was severe and continued with increasing severity to the third day. The ejecta at first being only mucous, later of a greenish color and at the end of the third undoubted evidences of antiperistalsis existed. All remedies per orum and per anum were without effect; no stool, no flatus had passed. We began to think seriously of making a secondary laparotomy. Temperature was 99 degrees F., pulse had not risen above 110. There was enormous abdominal distention; no sepsis; reversed peristalsis was due no doubt to the extensive peritoneal traumatata. In this condition the bowel becomes permeable and the ever present micro-organisms, never absent from the bowel, are given a favorable opportunity of passing through the intestinal walls to the peritoneum, producing septic poisoning. A stimulating antiseptic was imperatively indicated and as all other means had failed, oxgall and water each one ounce was carried, through a rectal tube, high up into the bowel, a thorough evacuation following, putting an entirely new aspect on the case. The left lateral position, when it can be borne, always favors the escape of gas.

The diet has sometimes been varied, from the regular routine, owing to idiosyncrasies of the patient, an aversion to or inability to take milk or any of its preparations. We found koumis to be well borne in several instances where patients declared they were unable to take milk in any form. Sometimes the addition of carbonated water will increase the palatability of the milk. If we found, however, that milk could not be taken in any form, mild beef tea and chicken broth was given during the first three or four days, when such more solid foods as agreed with the patient were carefully added to the regimen. Fruits of all kinds were avoided during the first week, owing to their tendency to cause flatulency.

Rectal feeding was frequently resorted to, where the stomach failed to perform its function. The quantity never exceeded four to six ounces, owing to the inability of the rectum to retain more. A favorite formula has been beef juice one ounce, one egg, brandy oz 1/2 beef tea salted q. s., oz 4 every four hours. Peptonized milk proved excellent; common salt should be added to all stimulating and nourishing enemata because it facilitates absorption. Opium may be added if there is difficulty in retaining enemata.

The time for giving the first cathartic depends greatly on the amount of trauma that has been inflicted during the operation in severing adhesions and the length of time the abdomen has been open. If the trauma has been severe, begin moving the bowels within twenty-four hours. If there is early tympanitus with beginning peritonitis; induce catharsis, the earlier the better; our favorite drug has been Rochelle salts giving teaspoonful doses every twenty to thirty minutes until large watery movements have been produced. A very great aid are enemata of glycerine and turpentine; one to two ounces of Epsom salts added to this mixture is a great aid. If these fail give oxgall enemata as before referred to. In uncomplicated cases, Tarrant's Seltzer Aperient is often sufficient. Seidlitz powder, citrate of magnesia and tartrate of potash and sodium have given good service. If a movement is obtained in three to five days in simple cases is quite early enough. If the salines are supplemented with enemata, straining and bearing down are greatly prevented, beside greatly augmenting the cathartic effect,
especially is this so when fecal accumulations occur in the colon, as they often do. If it became necessary to frequently repeat enemata, irritation and constipation ensued. In one case dilatation of the sphincter became necessary to overcome the constipation.

The patients were always encouraged to void their urine, and they were urged to use a bed pan before the operation. When a catheterization was necessary, a glass catheter kept in carbolized solution was employed. If there was any urinary tenesmus, it was promptly relieved by a hot vaginal douche. Sponge baths and friction, especially to parts exposed to pressure, were given daily.

The recumbent dorsal position was always insisted upon for twenty-four hours, after this a slight tilting was allowed and knees propped up, on the third or fourth day turning on the side was permitted.

The wound was not disturbed for eight to nine days unless drainage was employed. If a drainage tube was used, which was done in nearly one-half of the cases, it was cleaned every one to two hours, according to the amount of secretion. The tube was taken out as soon as nothing could be drawn from it, which was usually in twenty-four hours, although one tube remained in place for ten days before it was deemed safe to remove it. An extra suture was usually introduced which remained untied until the removal of the tube, and was then firmly tied to close the tube opening.

Hemorrhage is usually, though not always detected through the tube. Hot water introduced through the tube in one case checked what was deemed excessive oozing. In another secondary abdominal section was done and the bleeding successfully checked by Mikuliez packing. In this case there occurred before the secondary operation, a gradual rise of the pulse to 140 per minute and a gradual sinking of the temperature to 97.5 degrees F., which I regard as a pretty sure indication of internal hemorrhage. Every nurse in charge of a case of laparotomy should be instructed to recognize the meaning of this relation of pulse rate to temperature. If after the checking of bleeding, there is much weakness from loss of blood, the body fluids are restored by saline rectal enemata.

If septicemia threatened, saline cathartics was our main reliance, so as to eliminate as much as possible, by way of the intestinal tract, any septic substances which might be there. Chemical antipyretics did not prove to be of any value and we seldom use them now. They do sometimes reduce temperature, but only temporarily. They have absolutely no influence on the sepsis. Cold sponge baths were used when the temperature rose above 103 degrees F., and always with good effect in lowering the temperature, giving much comfort to the patient. The cold baths were once or twice supplemented by the abdominal recoil.
NEBRASKA STATE MEDICAL SOCIETY.

CHLOROFORM.

Experiences With It and Conclusions Regarding It Gained During the Last Year.

By A. S. V. Mansfelde, M. D., of Ashland.

MR. PRESIDENT, LADIES AND GENTLEMEN:

The chairman of your Committee on Surgery the constitution charges with the task of presenting to you an epitome of progress in surgery during the year just past. I cannot help but think that this rule has no longer cause for existence in the face of the fact that the world is full of publications which aim to cover the ground in a manner that cannot be attained by any one person. I refer briefly to the summaries of progress contained in the various journals; also to the special publication of E. B. Treat & Co., "The Medical Annual," and especially to the "Annual of the Universal Medical Sciences," published by the F. A. Davis Company: it takes more courage and self-conceit than any one man possesses to prepare a "progress" in any branch of the healing art with this work confronting him. The edition for the current year is based upon 1027 journals and 166 books and monographs. The bare mention of these is enough to convince you that the preparation of "progress in surgery" by any one man must either be a mere skimming of the surface of the subject or a verbatim copy of work already done: neither of these you will expect of me. I will, therefore, draw your attention, in lieu of what is already in your possession, to a matter of utmost importance to every physician, and especially the surgeon, i.e. to the chapter on anæsthesia, which is, I am sorry to say, not yet finished. I approach it, however, with the gladness of one who can see the end of a well-rounded product.

I beg to be excused when I make no mention of "ether," it being unknown to me as a practitioner of surgery. I am, however, impressed with the correctness of the statement of Arthur R. Cushny: "The difficulty in inducing narcosis with ether seems to confirm the theory of many observers that ether alone is insufficient for the purpose and must be aided by a partial asphyxia." The work of the gentleman just quoted is, perhaps, the best production of the year in experiments with anæsthesia. Stimulated by the findings of the Hyderabad Commission, as well as by the persistency with which Surgeon Major Lawrie has brought into prominence their conclusion: "That the proper administration of chloroform never affects the heart primarily, but always the respiration—the latter, therefore, must always be closely watched to the exclusion of the pulse." Professor Kronecker, of Berne, induced Cushny to take up the work of his students, Ratimoff and Schemey: by experiments on rabbits, dogs and men, with an apparatus, which permits the inhalation of exact quantities of watery vapor of chloroform with each inspiration, Cushny concludes that:

"To maintain narcosis with chloroform a concentration from 5 to 7, and 7 to 10 parts of chloroform to 90 and 95 parts of pure air must be adopted for children and adults respectively." Theoretically, Cushny cannot agree with the Hyderabad Commission that the heart is not primarily affected;
but practically he deems it sufficient to maintain a concentration of the vapor, sufficient to do this, concluding that death is generally induced by respiratory derangements. Yet there seem to be conditions which do not admit of the acceptance of the Scottish axiom “that the respiration always fails before the pulse.” E. C. Kingdon writes: “I have lately become convinced that such teaching is at any rate an erroneous one, if the chloroform is being administered for the treatment of navi by electrolysis. During this operation it is a common occurrence for marked enfeeblement of the pulse, with slowing of the respiration to take place; the effect, however, on the pulse and respiration being in direct proportion to the strength of the electric current employed, but the main effect is usually on the heart. I have noticed the pulse disappear at the wrist, though the breathing continued. I am indebted to Dr. Marshall for the observation that this danger is most to be feared, if the naevus be situated on the scalp.”

The careful research of McWilliam has shown that the heart muscle relaxes and that dilatation takes place, leading of course, to gradual failure of the circulation. “During chloroform anaesthesia the blood pressure is lowered and the heart’s action is weakened. Dilatation of the heart occurs even when chloroform is given gently, mixed with abundant air. Dilatation may occur even before conjunctival reflex is abolished. It occurs often very rapidly, and is not relieved by raising the blood pressure. Cardiac enfeeblement occurs by a sudden weakening and dilatation of the organ. Though respiration generally ceases before heart-failure occurs, sometimes heart-failure takes place long before the respiration ceases.”

In reviewing modern physiological research Professors Wood and Hare justly say: “It is unanimous in averring that chloroform given diluted to the lower animals kills qua the respiration—i. e. as Snow has well explained, by accumulation; given in concentrated vapor, it kills by provoking paralytic arrest of the heart. This result also obtains when chloroform is injected into the veins. A like effect may be expected when administered internally in correspondingly large doses. The heart further after this arrest is found relaxed and incapable of responding to stimulation. Chloroform can, and does, kill directly through primary arrest of the heart. It acts as a powerful depressant poison upon both respiration and circulation: sometimes the influence is not felt at the heart, and death results from cardiac arrest; in other cases the drug paralyses primarily the respiratory centre, while in other instances it seems to act with equal force upon both medulla and heart. Cardiac arrest is specially prone to occur when chloroform is administered rapidly and in concentrated form.” Both the authors have witnessed deaths from chloroform in the human subject, in which the heart ceased some while before arrest of respiration took place.

In autopsies after death from chloroform, Dr. James Dunlap, medical examiner for criminal cases, city of Glasgow, finds that in the deaths from asphyxia the right side of the heart was full of liquid blood, not dark blood such as is present in asphyxia from drowning, but blood with a pinkish or magenta tinge, which seems to be characteristic of death from asphyxia by chloroform. The left side was found a flaccid heart with all the cavities empty. No blood on the right side; no contraction of the left ventricle. There was blood in the veins; the cave
were distended with blood. In some instances the heart was large, soft and fatty, and its tissue friable. Along with this condition of heart was noted a more or less yellow, soft, fatty liver. In other instances there was no evidence of any disease of the heart or other organs; all that was noticed was a flaccid, empty heart, with venous engorgement of the lungs. In one fatal case examined by Dr. Moore there was, in addition to the empty, flaccid heart, complete adhesion all around to the pericardium. Death was due to syncope from failure of the heart's action.

* * * * Weakly, flabby, thin-walled, yellow hearts, and hearts bound to the pericardium by old adhesive bands of probably rheumatic origin, are prone to become paralyzed very early in the administration of chloroform. * * * Strange as it may seem, disease of valves, hypertrophy of walls, cardiac murmurs of all kinds give no trouble during the administration of chloroform. I know this from experience in the operating theatre, and I have never found any valvular disease in any case of death under chloroform? * * * There are some conditions of lungs and other organs which render the administration of chloroform specially hazardous and which increase the risk of death from asphyxia. One is a lung or lungs bound down to the walls of the chest and diaphragm by old adhesive bands; the patient having had extensive pleurisy. The breathing capacity or volume of the weakened lung being greatly diminished, a small or ordinary quantity becomes an overdose. With lungs in this condition a very little chloroform seems to embarrass the respiratory organs and bring about a fatal result. * * * * Deaths from asphyxia, or preventable deaths, took place under two distinct sets of circumstances: in one set the administration of the chloroform was too long continued; the patient was too deeply under its influence from the beginning. There was an overdose, the breathing became shallower and shallower, the chest ceased to move, the diaphragm and abdominal walls only moving. The face and lips became livid, and death ensued in spite of artificial respiration. In the second, or other set, the patient was placed fairly under the influence of chloroform, administered with a due admixture of air, but during the operation, owing to the patient appearing to come out from under its influence, a further dose was administered, and this dose was excessive and the patient died. The cause of death was asphyxia through the lungs. This is not an uncommon blunder, even in the hands of skilled men, and is due to want of care in the administration and the neglect of watching the respiration."

Dr. Lander Brunton says: "Previous researches have pretty well established that chloroform is a universal protoplasmic poison, and will destroy the contractile power of individual cells, of cilia and muscular fibres and when injected into the artery of a limb will produce rigor mortis in it and make it stiff as a board. There was no question, therefore, of the power of chloroform to destroy any structure of the body if applied to it in sufficient concentration, nor do we attempt to deny that chloroform will destroy the contractility of the heart, just as it would that of a voluntary muscle, provided always it reached the heart in sufficient concentration."

In 1888 Behring stated that the immunity which white rats enjoyed from anthrax, was owing to the greater alkalinity of their body fluids as compared with that of other animals; and that the administration of chloroform to white rats lessened their alkalinity and in consequence a weakening of their resistance to anthrax ensued. Based upon these statements Dr. J. Petruschky made experiments which show that
after death from chloroform a decided acid reaction of the fluids and tissues of the body results; which so far has not been demonstrated, except from arsenical, oxalic acid, hydrocyanic acid and ether poisoning, in persons who have died from other causes. The acidity is not developed during life, but a lessening of the alkalinity takes place, *intra vitam*. The acid excretions of working muscles and of the gray cells of the brain (Gescheidler) are during life readily neutralized (Langendorff) and this capacity of the living cells seems to be reduced by chloroform during life and entirely abolished, when passing into death, hence the acid reaction following. All these materials thus causing an acidity of the body fluids, post mortem, seems also to be instrumental in the formation of the quickly occurring *rigor mortis* which invariably follows their lethal action.

In immediate connection with this subject Kast and Mester have shown that large, or lethal doses of chloroform internally administered or by prolonged inhalation, are followed by a chronic poisoning which manifests itself anatomically by a fatty degeneration of the parenchymatous organs. A lessening of the body weight, accompanied by an increased excretion of chlorine gas (Kast) and nitrogen (Strassmann) has been demonstrated. Also the excretion of a sulphur containing substance, similar to cystin, and a constantly occurring more or less pronounced urobilinuria. The non-oxydized sulphur contained in the urine was doubled; from 10 to 16 per cent. to 20 to 30 per cent. of the whole quantity. With the manner of excretion of the inhaled chloroform are related; *a*, the reducing character of the urine through the formation of a glykuric acid compound, and *b*, the great increase of the acidity of the urine after chloroform narcosis.

Fitly grouped with the foregoing is the experimentation of Pohl, regarding the reception and distribution of chloroform in the animal organism. Following the method of Schniedeberg, he found that the blood of a fully narcotized animal contained from 0.06—0.1 per cent. of chloroform; in the mean about 0.035 per cent. He also demonstrated that at 15 degrees C. blood is capable of absorbing from 0.6 to 0.7 per cent. of chloroform; that, therefore, under anaesthesia the blood is far from a saturation with the agent. (Presumably in consequence of the higher temperature of the body.—Jakoby.) He also found that the blood corpuscles contained a far greater amount of the chloroform than the plasma, and that whilst the haemoglobin would take up no more chloroform than water, the lecithin and cholesterin of the corpuscles absorb a greater quantity. The same is true of the substance of the brain, which contained 0.042 per cent. of chloroform to 0.015 per cent. in the blood. Pohl also demonstrated that the emulsified brain substance takes up about 1.25 per cent. of chloroform, as compared with the absorption of 0.6 per cent. of the agent by water. He concludes that in the brain also, the chloroform is absorbed by the lecithin and cholesterin which it contains. What possible influence in the formation of the narcosis this relation of the chloroform to the brain substance has is at present not known; yet the remarkable fact remains that relatively small quantities of chloroform are present in the body, when fully narcotized.

The foregoing data concerning the action of chloroform upon the organism deal more or less with the whole being. No account is taken of the fact that medicinal agents have a predilection for certain organs and tissues. It is only when we understand the ultimate action of drugs that we fully comprehend their influence upon the animal, as manifested by observable symptoms and conditions. That
chloroform is a powerful agent for good everybody knows, who has ever used it in surgery; that it is dangerous, the thirty-seven deaths from it during the last year loudly proclaim. Yet the death rate, as stated in 877,507 chloroform administrations, being 204, or one in 4,301 cases, is not a true criterion of the danger of chloroform per se. No one will admit for a moment that the agent itself is accountable for the fact that in the service of the United States in 80,000 administrations of chloroform, thirty-seven persons perished, whilst in the Confederate service (Chisholm and Hunter McGuire), in 38,000 cases no deaths took place. It is evident that causes outside of the chloroform itself must have contributed to bring about this discrepancy; comparison of individual experiences brings this point out still stronger. Bardeleben reports 30,000 chloroform administrations with no death, whilst Anstie reports 3,058 cases with twenty-one deaths, or one in 145 cases. Such remarkable diversity of results must rivet attention. In the first place, climate is thought to be a factor, and the warmer the surrounding atmosphere, the less the danger. But such cannot be claimed in the case of the contending armies in the war of the rebellion. The wounded of the respective armies were too near to one another to allow of climatic differences of any importance; though it is claimed that summer and winter in the temperate regions show quite a difference in the danger in favor of the summer months. The cases of Bardeleben are, presumably, entirely surgical cases of priorly healthy persons, whilst those of Anstie, judging from the nature of his specialty of diseases of the nervous system, may have been cases of distinct diseased conditions of the body, preceding the measures for which the anaesthetic was administered. The safety claimed for the administration of chloroform by the Hyderabad Commission, and especially by Surgeon Major Lawrie, when administered with proper regard to the respiration, may be correct enough when dogs and monkeys are used, whose lungs and hearts are perfectly normal, and who otherwise may be healthy; the case becomes a very different one when man is the recipient of the anaesthetic. In the first place there is a diseased condition, for which the chloroform is administered, which in itself may be a grave threat to life. Secondly, the factor of fear plays a great role in the danger, and may often be by itself alone the cause of death by syncope; then add to these the possible existence of a fatty heart, adhesions of the pericardium from inflammation, particularly rheumatic, adhesions of the lungs to the costal pleura, albuminuria, haematome and aneurisms in brain and lungs, and an array of complications presents itself which puts to naught the assurance of the Hyderabad Commission, that chloroform never affects the heart primarily. Whether the chloroform does it alone, or by the aid of some of the complications above indicated, the clinical fact remains that the heart does often cease to beat long before the respiration stops. Physiological experiments, however brilliant and conclusive when viewed from a scientific standpoint, may utterly fail when put to test practically in cases lacking every premise by which the conclusions were gained. Such, evidently, is the case with the work and conclusions of the Hyderabad Commission, when brought face to face with the requirements of daily practice.

From the wealth of information, barely touched upon in the foregoing, as our basis; what do we learn does really happen, when chloroform is administered to a healthy individual? Permit me to premise my surmises with the statement that I have taken chloroform myself to anaesthesia at least five or six times during the last
TWENTY-FOURTH ANNUAL SESSION

eleven and one-half years, and have administered it, or had it done by my wife, not less than a thousand times in the period of a quarter of a century and almost exclusively in my private practice, covering cases trivial in their import to such as adherent ovarian tumors, demanding for their removal several hours of time. The inhalation commenced, the vapor passes along the bronchial tubes to the air vesicles and not only from these, but also through the smaller bronchi it penetrates and finds its way into the circulation, there to be absorbed, partly by the plasma, and to a greater extent by the blood corpuscles, whence it continues to every part of the organism. But how? By passing through the walls composing bronchi, bronchioli, air vesicles, arteries, veins and capillaries. Most of these contain a layer, (the middle one), of unstriped muscle—(involuntary) —and the central organ, the heart, is itself a hybrid between the cell-formed and fibre-shaped muscle tissue. The primary effect upon these; one that has been hitherto entirely overlooked, is that of relaxation—a paralytic action of the agent deprives the tissue of its tonus; it loses little by little, as the narcotism increases its contractility, and a gradual dilatation of the whole system of tubes ensues—of course the heart included; those less resistant yield first, the thinner-walled veins and right heart; an over-filling of them ensues, the patient is bled into his own blood-vessels, and a lower blood pressure is the outward token of this condition. It is at this stage of anaesthesia, when the involuntary muscle tissue struggles with great odds against the poison, that the greatest danger point is reached; and if the administrator does not fully realize that he must carefully train the muscle tissue to perform its work in spite of the powerful antagonist—in other words teach it to become accustomed to its presence gradually, but persistently,—some part of the system may give way—and this "giving way" will depend entirely on the accidental weakest point in the individual. If, as already pointed out, the lungs are impeded in their normal action by pleuritic adhesions etc., an asphyxia, evolved by mechanical means, results—of course—caused primarily by the paralysis of the whole system of muscles included in the vast bronchial tree. If on the other hand, lesions of the heart and its accessories exist, which greatly interfere with its proper function, the danger point must be placed in it, and a mechanical syncope will quickly and irredeemably terminate life. Bear in mind the fact that the more concentrated the administration and the more rapid the inhalation, quicker will the latter accident supervene. Granted the anaesthetic has been properly administered and lesions of both lungs and heart are absent, then the continuance of the vapor in its penetration to the tissues first changes the normal condition of the blood corpuscles; it may or may not change their oxygen carrying qualities—the former is more likely the case—the result, if too great a concentration takes place, is easily imagined, systemic asphyxia supervenes, which may or may not be concentrated by the method of administration and the regulation of the respiration. These cases are those of preventable asphyxia. A strong body may bridge even this danger, until the immediately concerned tissues, those of the blood-vessels and heart are deprived of this life-sustaining oxygen, plus a direct chemical influence upon them by the chloroform, and the result will be systemic syncope. Finally if even these dangers are happily avoided, another and last one threatens to destroy in consequence of the absorption of the anaesthetic by the tissues of the other organs of the body, and particularly those of the nervous system and more especially of the central ones; the brain and spinal cord. The absorption of the agent by the
voluntary muscles and the brain solves the final feature of a full narcosis—total anaesthesia and absolute muscle relaxation. A prolonged and intensified measure of these must lead to disastrous consequences from necrotic changes in the elements of tissues to somatic death.

If your interest in the subject, or the possible good these lines may contain should induce you to peruse them at your leisure, I trust you will find many a suggestion for the more intelligent and, therefore, safer use of chloroform.

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SOME REMARKS ON THE CONTINUED FEVER OF RURAL NEBRASKA.

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Were professional opinion a unit in regard to the etiology and diagnosis of the continued fever prevailing throughout the State, (and for that matter throughout the Great West), a discussion of this subject would be superfluous.

It may be assumed as the experience and observation of the profession, that the continued fever of rural Nebraska differs widely from the typical typhoid of the books; since it is variously classed as malarial, typho-malarial and typhoid, and by some even as a nondescript, "not typical of typhoid and yet having some of the characteristics of that fever."

One has but to glance over that class of journals mostly used as mediums for the interchange of ideas by the so-called country practitioners, to find them teeming with discussions of this subject, and be convinced that radical differences of opinion exist as to the nature of the disease in various parts of the United States.

In view of this, the following remarks are offered (with no air of authority), only trusting they may provoke discussion of a subject that interests us all.

For illustration, four cases are given, showing the types and grades of the fever as seen by the writer in Madison County.

First:—A young German-American of 20, of medium height and weight; after an unusually hard week's work, pitching hay in the heat of October, and drinking meanwhile large quantities of water from an open surface well, contracted a mild diarrhoea; and after four days of anorexia, lassitude, headache, occasional chilly sensations, and a general feeling of having taken cold, took to his bed and was found with a temperature of 103 degrees, pulse 120, respiration 22, considerable headache, no delirium, foul breath, tongue coated whitish-yellow, with a glazed tip, considerable diarrhoea with tympanites, tenderness in the right iliac region, (and over the whole lower abdominal region as well), slight dry hacking cough, considerable prostration, and a peculiar dirty, reddish-pallid countenance.

The evening temperature within the next three days reached 104.5 degrees and oscillated a little about 104 degrees for the ensuing ten days, during which time there was some mild delirium for several successive nights, while headache gradually grew less, and listlessness increased. The appetite remained unimproved, the tongue grew reddish, glazed, dry and then cracked in the middle; sordes collected on the teeth, diarrhoea continued, and when not restrained by opiates, there were five and six dejections a day; tympanites continued and tenderness increased, and with it increased the prostration. Sudamina, but no rose-colored, lenticular spots, were visible.

On the 11th day of attendance, and the 15th day, counting from prodromal symptoms, the temperature showed a decline of half a degree, and the tongue began to moisten around the edges. A mild hemorrhage occurred on the 14th day. Convalescence was slow, but uneventful, the temperature declining half a degree a day.
Diarrhoea and tenderness persisted until after the complete defervescence of the fever.

The writer considers this an almost typical case of typhoid fever, but a fellow practitioner attending a similar case in the same neighborhood at the same time, called the disease malarial fever.

Second:—A buxom young lady of 16, weighing 140 pounds, returning with her lover, (who was not in particular favor with the paternal guardian), from a Christmas Eve celebration, spent some time "swinging on the gate," in the face of a strong, chill and damp northeast wind. Vomiting and purging began next morning and continued throughout the day and night. The writer was called the day after Christmas and found a morning temperature of 102.5 degrees; pointed, red, dry, glazed tongue, denuded of epithelium at the end, and coated with a whitish-brown fur at the base. Nausea was constant, and biliary products were frequently vomited. Diarrhoea with tenesmus continued. The right iliac space was very tender. Tympanites, if present, was not noticeable through the fleshy abdominal wall. Thirst and prostration were great, and altogether the case presented much the appearance of cholera morbus or corrosive poisoning. The vomiting and purging were, to a great degree controlled, within thirty-six hours of treatment.

Some diarrhoea, however, remained; the iliac tenderness continued, and tympanites and gurgling developed, during the first week. The tongue remained pointed, red, dry and fissured and by the end of the first week occasionally bled a little. Sordes collected on the teeth in great abundance. The patient had become delirious and sleepless by the end of the first week; and the temperature, by gradual stages, had reached 104.5 degrees and pulse 120 by the end of eight days. There was some epistaxis and considerable cough which occasionally provoked the still super-sensitive stomach to fits of vomiting. From the eighth to the thirteenth days the temperature ranged, with slight exceptions, from 104 degrees upward, several times reaching 105 degrees; pulse continued for days at 130, and became distinctly dicrotic. Listlessness, delirium and sleeplessness, at first increasing, were later superseded by coma vigil, and subsultus tendinum. During this prolonged period of high temperature, the cartilaginous septum nasi lost its vitality and finally sloughed away. The lips, as well as the tongue became dry, glazed, fissured and frequently bled. The tongue became so dry, crusty, fissured and swollen that it could with difficulty be protruded. The collection of sordes on the teeth became baneful and disgusting. Troublesome bronchitis developed. The stomach remained slightly irritable and the patient could with difficulty be persuaded to take a little nourishment. Rose-colored eruption appeared the second week. Bladder and bowels discharged, unconsciously. Three hemorrhages occurred between the twentieth and thirtieth days. Tenderness and tympanites became so extreme that the patient would lie on neither side on account of pain; and the expected result, large and troublesome bedsores developed over the sacrum and right shoulder. The knees had been kept drawn in a semi-flexed position, to relieve the tension of the tender and tympanitic abdomen, for several weeks. After the thirtieth day, the temperature began to recede gradually and the intestinal tract to show slight signs of improvement. But neither the patient's nor the doctor's troubles were over. The flexor tendons of the legs had contracted; the synovial membranes of the knees had become tender, and probably cretaceous deposits had found a resting place within the synovial cavities. Severe and painful double synovitis developed, (happily of
short duration), simultaneously with efforts to extend the limbs; and when at the end of ten weeks from the date of illness, the patient was barely able to sit half-reclining, in bed, she was still confronted with complete motory and sensory paralysis of both lower limbs, the rectum and bladder. Four months of persistent medicinal and electrical treatment, had so far restored the functions of the limbs that by heroic efforts she was enabled, on the first of July, six months after the onset of the disease, to drag herself across the room.

This case was, at different times, seen in consultation by three physicians, leaders in the profession in their respective towns in the Elkhorn Valley, and pronounced typho-malarial fever. The writer classed it as the bilious form of typhoid fever, given in Pepper's System of Medicine, as "that variety complicated at its commencement by gastro-intestinal catarrh." Two of the nurses and the step-mother of this patient, contracted the illness within five weeks after this patient was attacked.

Third:—The following is given to represent the abortive form of the fever, cases of which are frequently met with:

A rosy-cheeked individual of full habit, thirty years of age, having recently moved to town, after moping about for several days with headache and an indescribable weakness, took to bed on the first of October, complaining of pain in the right side of the abdomen, great prostration, severe headache and thirstiness. Evening temperature was 102 degrees, pulse 100; patient sweating; tongue slightly coated and dry. There was tenderness and tympany in the right iliac space, bowels constipated. After moving bowels, with an enema, a grain of calomel was administered, which brought on diarrhoea, so persistent, and tenderness so painful, that opiates had to be exhibited to restrain diarrhoea and relieve pain. The evening temperature showed an upward tendency for seven days; when having reached 103.5 degrees, it rapidly declined. The tenderness and tympanites disappeared, and the tongue, which on the seventh day was dry and glazed at the point, crusty on the body and base, rapidly resumed its normal appearance. Convalescence was rapid, and on the fifteenth day, the patient, though still quite weak, visited the writer at the office.

Fourth:—A well-to-do, robust German of 45 years, weighing 220 lbs., of good habits and good surroundings, (i.e. living in a large, new and well kept house), had been devoting part of his time, day and night for several weeks, nursing members of his family ill with fever, when he began to feel headache, thirst, anorexia, pain in back and limbs, and a sore, uneasy feeling in the right iliac space. When first consulted about these symptoms, the temperature was 101 degrees, tongue slightly coated, no noticeable tympanites, very little tenderness, bowels inclined to costiveness. The symptoms being such that no active treatment seemed indicated, (the patient being unwilling to believe himself under the influence of the specific fever poison), and other members of the family requiring the daily attention of the physician, nothing was done, save the occasional administration of a laxative, and observing daily the temperature, which for the next ten days, remained about the same. On the tenth day he went to the field to oversee a job of threshing and in the face of a chilly and damp northwest wind while there, was taken with a chill. When seen the next day the temperature was 102.5 degrees, tongue became dry and slightly glazed, but not fissured. There was a dry, hacking cough, some tenderness and gurgling in the iliac space, bowels remained
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constipated throughout the course of the illness; temperature declined gradually: if this case had stood alone there might have been some doubt about the diagnosis. The family in which the case occurred consisted of the patient, his wife and ten children, all of whom, excepting the mother and youngest child, a nursling, were taken ill with the disease in different degrees of severity, within two months. Two of them had mild hemorrhages and nocturnal delirium and were in bed a month. Several had persistent diarrhoea, and in two the bowels remained normal but very sensitive to minute doses of the mild chloride.

A married daughter, five months pregnant and a lady relative, both of whom were frequently at the house and assisted in taking care of the sick, were stricken with the disease.

Next to diphtheria, this continued fever is the most prevalent of those diseases which cause the people of rural Nebraska serious alarm. Hence a correct understanding of its nature, is an important matter.

What then is the nature of the disease; malarial, typho-malarial or typhoid?

The cultivation of the specific bacillus of typhoid fever from the excretions of patients ill with the disease, would of course at once settle the question; but the average Nebraska doctor is neither a microscopist, nor a bacteriologist. So also would the post mortem discovery of ulcerated Peyerian patches; but fatal results from this disease are so rare—only two cases having occurred in the writer's practice in ten years—and the opportunities for post mortems in a country practice so few, that this also must be eliminated as a method of arriving at the pathology, and by its aid, at the diagnosis of the disease.

Conclusions must therefore be drawn from other, and more superficial data.

In general terms it may be said that the climate, soil, topography and altitude of Nebraska are unfavorable to the development of the malarial miasm. Fever and ague is almost unknown in the interior of the State. During a ten years' practice in Madison County, the writer has seen but two cases—both imported.

The term, malaria, is synonymous with swamp, or ague poison, and malarial affections comprise only those diseases produced by the action of the swamp poison on the human organism.

It is a matter of medical history that in sections most distinctly malarious, the intermittent malarial fever predominates and that increased quantity of malaria increases the proportion of remittent fever.

Were this fever then of a malarial nature, one would frequently meet cases of fever and ague, coincident with cases of remittent malarial fever. The diurnal periodicity, characteristic of malarial fever it wanting; so also is the hard, bounding and resisting pulse, the persistent vomiting as well as the bile coloring present in all the excretions of malarial subjects. Hemorrhage occurs in malarial fever only in severe and protracted cases, and then late in the disease, while in this it may occur any time after the tenth day, and in any case.

Typho-malarial fever is no more considered a distinct disease. Before the International Medical Congress at Philadelphia, in 1876, Surgeon Woodward, in a very exhaustive paper, which made him famous, showed that typho-malarial is a compound fever. It passes almost without argument, that when two diseases are combined in the same individual, the resulting compound disease is more severe than either disease by itself. This is well illustrated in the case of a patient having both scarlet fever and diphtheria—the resulting compound is always an illness of the gravest kind. (It may be remarked here, parenthetically, that when a patient is said to
have both scarlet fever and diphtheria, and yet, the illness is not of a malignant type, that a mistaken diagnosis has been made: simple exudative tonsilitis, common to scarlet fever, has been mistaken for diphtheria.)

If this fever were both typhoid and malarial it would not present the mild form it almost invariably does.

An authority says: "I am very cautious about asserting the diagnosis of typho-malarial, unless the nervous symptoms, positively marked bowel symptoms, or rose spots are present to indicate the decision."

All the important attributes common to malarial fevers are wanting in this disease and quinine has no influence over the course of the disease, except as a tonic.

Well developed cases of the disease have the following attributes common to typhoid fever: The gradual onset of the disease, the gradual and regular increase of temperature, the slight hacking cough, epistaxis, iliac tenderness, mild diarrhoea. After the first week, listlessness, delirium, rose colored spots, tympanites, hemorrhage, the dicrotic pulse, dry, glazed and fissured tongue and the decline of the fever by lysis.

One is forced to the conclusion that the continued fever of rural Nebraska is typhoid fever.

In a great majority, probably ninety per cent. of the cases, the fever runs a mild course; delirium is rare. Noticeable diarrhoea is present in perhaps less than two-thirds of the cases. Constipation may even exist; but purgatives always find a tender spot in passing through the intestinal tract: the characteristic eruption is very rare. Cases of the abortive form are frequently seen, where, any time from the seventh to the fourteenth days, the fever declines and the patient is convalescent.

It is not uncommon to see so-called walking cases in which the temperature does not exceed 102 degrees, the patient mopping, sitting or lying around but refusing to go to bed. These cases, as well as the abortive, frequently are seen in families where there are others sick with well developed typhoid fever; hence the nature of the illness cannot reasonably be doubted. It is due to the fact that the typhoid fever of rural Nebraska is a mild and modified fever, which has given rise to the difference of opinion regarding its pathology, etiology and diagnosis.

What influence could operate to modify the course, severity and duration of typhoid fever in Nebraska?

It may be suggested that the high altitude, dry atmosphere, diffuseness of population, absence of timber, the comparative absence of decaying vegetation in moist places, and the strong winds, combine to produce an atmosphere pure and rich in vitalizing ozone, tending to make the system stronger to resist the inroads and more capable of throwing off the morbid products of the disease.

The typhoid fever of rural Nebraska is a rare disease in wet seasons; it thrives in the driest autumns, when the water level in the earth is lowest. The etiology of typhoid fever consists in the introduction of the bacillus (specific) into the intestinal canal. The bacillus thrives in an alkaline medium and is taken into the system with the imbibed fluids. When the water level of the earth becomes low, the alkalinity of the water increases in the same manner that the salinity of a vessel of salt water increases by evaporation of the water. It was observed by the writer during the past summer in making about seventy-five urinalyses, for life insurance companies, that, contrary to the teachings of physiologists, the urine of persons examined, without reference to the time of day, was, in nearly all cases alkaline in reaction. Two factors appear to the writer to contribute to this fact: the alkalinity of the drinking water and the scarcity of fruits necessitating a
nearly total absence in the daily dietary of
the fruit acids. In the normal condition
of the system, the acid gastric juice is a
sufficient barrier against the introduction
into the intestines, in an active state, of
the typhoid bacillus, for the majority of
individuals secrete a gastric juice suffi­
cient in quality and quantity to destroy its
virulence. It is recorded as a matter of
common observation the world over, by
writers that newcomers in any certain loca­

ty are more liable to the disease than older
residents; an observation that the writer
has had abundant opportunity to confirm
in his own experience.

It seems probable that on the part of
newcomers in Nebraska, the great alka­
linity of the drinking water, and the neces­
sary change of diet, resulting from the
scarcity of fruit, causes derangement of the
assimilative functions, and consequently
results in greater vulnerability to the dis­
 ease. It also seems to the writer, that
any sudden impression of the system, as
an unusual hard day’s work, exposure to
the elements, or a sudden cooling of the
body after unusual exertion, or the drink­
ing of unusually large quantities of water
in hot weather, may, and often do, by
deranging stomachic digestion, open the
portals for the ingress of the disease

germs. A case in point is that of a stout
young man, engaged for one day in
the laborious task of feeding a threshing
machine, and the grain being very dusty,
he drank water very freely. He felt ill
that night, and fever developed at once.
Another shovelled corn for a sheller all
day, perspiring freely and in the evening,
having to return to his home without a
coat, became very chilly: fever at once
developed.

In the little city of Madison, no case of
typhoid fever has developed since the
completion of the water works; the water
being obtained from driven wells 110 feet
below the surface, in the valley of the
creek, consequently free from surface con­
tamination and nearly soft (i.e., contains
less of the alkaline earthy salts than sur­
face water).

This kind of argument may not seem
very scientific when presented before the
ablest men of the profession in the State;
still, in view of the fact that the drinking
water theory is so generally looked upon
as the cause of typhoid fever that it may
be said to be the accepted theory, if not a
fully demonstrated fact, these rambling
remarks will not be entirely irrelevant.

In regard to treatment, a few words
must suffice. The pathology of typhoid
fever consists in the irritation and ulcer­
ation of the mucous membrane of the bow­
els, produced by the bacillus typhosus
and the systemic poisoning produced by
the chemical toxins resulting from the de­
velopment of the bacillus in the bowels.
The indications then are plain—sustain
the patient, reduce the temperature, and
destroy or neutralize the morbid cause in
the bowels and system if possible—but
how best to meet the indications is still
an open question.

The writer has had satisfactory results
follow the administration, daily or every
other day, of small doses of calomel,
in cases seen early till the tongue begins
to clean; the exhibition of dilute hydro­
chloric or dilute sulphuric acid for tonic
astringent, refrigerant and antiseptic ef­
fect, and acetanilide, together with daily
spooning, to combat pyrexia. The cold
water method of treatment as lately elabo­
rated by Brand is hardly practicable in
the ordinary surroundings of the country
practitioner.

The salicylate of ammonium, the sul­
pho-carbolate of zinc, salol, naphthol, car­
bolic acid and iodine are much vaunted:
these, and other antiseptics will no
doubt constitute the greater part of the
therapeutics of this disease in the future,
from an antiseptic and rational standpoint.
That "the successful management of typhoid fever depends largely upon the readiness with which the physician detects indications for treatment, and the promptness with which he meets them," may be considered an aphorism.

It has been aptly said, that frequently a paper of no great importance in itself provokes a discussion of the greatest value; and the writer's ambition will be amply gratified to be thus rewarded.

**DISCUSSION.**

Dr. Conwell: To my mind these were clearly cases of typhoid fever. Now, I think the trouble with most of us is that we are looking for typical cases of typhoid fever as laid down in our text-books. Typical cases of any disease should not always be expected. The main train of symptoms will point to the disease usually. This is what he certainly had in the cases which he has brought before us.

There is one thing that I would speak of in regard to the treatment, that I believe is beneficial where it can be carried out; and that is the cold water bath to keep down the temperature. I believe that the complications are usually brought on in typhoid fever by the continued high temperature, and that the cold bathing will keep down the temperature.

Dr. Bullard: Marsh fever, mountain fever, remittent fever, etc: it has been my experience, after practicing along the valley of Northern Illinois, is but a modified form or type of typhoid fever; modified by certain conditions or surroundings. It has certainly the same origin, and comes from the same cause, according to my experience and observation, as typhoid fever. Of course, every case of fever isn't typhoid, any more than every case of sore mouth or sore throat is diphtheria.

Dr. Davis: The only point I wish to make in connection with the subject of typhoid fever is: We have had a great deal of these continued fevers in the Republican Valley during the latter part of the year (last year), and I have been very much in doubt as to whether all of them were typhoid, but I know that there have been some cases of typhoid. In handling these cases I am always very careful to disinfect the stools and everything which comes in contact with the patient. In the second place, I have always been ashamed to have one or two cases in the same locality. Whenever more than one case arises in the same locality I appoint myself a local board of health and begin to investigate in regard to the cause, and I must say that, in the great majority of cases, I have been able to discover some cause which seems plausible, and endeavored to remove the cause and prevent the further development of the disease. Often times some well has been found to be the source of contagion, and by getting the people to use water from some other source, the cases would cease; no more would arise in that locality. In one particular instance I remember we were very much nonplused. I called another physician in consultation, and after the second case arose in this family, we began to investigate and discovered an old unused cesspool. The tube leading to it had not been removed, and a great deal of the gas from that cesspool had been passing right along the tube directly underneath the sleeping room of the two children who had the disease. Whenever we have cases of this kind we should endeavor to investigate, as far as possible, the source of contagion and try to remove it.

Dr. Smith: (The remarks of Dr. Smith, owing to the low tone in which they were spoken and the distance he stood from the stenographer, could not be reported).

The commercial unit of electricity, formerly known as the Board of Trade unit, is hereafter to be called the kelvin.
On the 25th of January, 1892, was called to J. S., a young man, whom, though wasted by a month's severe sickness, gave promise by his muscular endowments, of the eulogium I had heard a farmer of my acquaintance bestow upon him; that he was the most profitable hand he had ever hired. I found him with an irritable pulse of 98, face bedewed with perspiration, and many of the signs of hectic fever, with great prostration, and all the symptoms justifying the prognosis of the medical man who had preceded me, and who said to his mother that he would not live ten days. He was 24 years of age and wasted as he was, it was a laborious task for his friends to support him twenty inches above the bed while I examined his back, where all his complaint centered. I found it one vast burrowing abscess, from his shoulder blades to his hips. It had been lanced at two points not far from the spine, without any attempt at a valvular opening and without any regard to antiseptics. It needed but a very little encouragement from a probe, to evacuate from 15 to 20 ounces of fluid, part of which was unmistakably pus, and part seemed something else and much thinner. I found a yielding, elastic protuberance at the foramen magnum, about the size and shape of half an egg, which his mother insisted never showed itself till after he was ten years of age. Convinced from the first, that we must have more available means of suspending him above the bed for the purpose of examining and dressing his back, I thought myself of a block and tackle, and it answered an excellent purpose for 38 days. Feeling assured that the wonderfully profuse secretion from his back jeopardized his life, I sent into every part of the abscess, by means of a small glass syringe, a 4 per cent. solution of carbolic acid; and as I found it immediately effective, I reduced the strength from day to day till I was soon using a two per cent. solution, and the secretion of pus from all the apertures did not amount to one-fourth of a teaspoonful per day, and the thinner fluid which exuded from two, of what were now ulcers at the points which had been lanced, did not amount to more than one-fourth of a teaspoonful. I was satisfied that the thinner fluid had been intended by nature for lubricating the cavity of the spinal cord. (I once, had born into my hands an ordinary case of spina bifida, in which, before I left the house, I had to protect the exceedingly thin membrane with a piece of oiled silk, and as long as the child lived, there was an exudation of similar fluid.)

I felt under many obligations to the ladies in his neighborhood, for supplying him with delicacies from their own tables, till a natural, healthy, appetite; rendered it unnecessary. For two months now, the patient has sat upon a chair for me to dress his back, and though I talk encouragingly to him, it seems almost impossible to cover the ulcers with cuticle, from which exudes the thin fluid. He is industrious and saws all the wood for family use. The bed sores, (at one time very threatening) have all healed, and he seems in a fair way for recovery, but I shall always give a guarded prognosis of his future. I cannot learn of any blow or strain his back has received at any time, but I learn from measurement, that his left arm is a full inch smaller than his right; and by palpation I learn that from about the 5th cervical vertebra, down through the dorsal and into the lumbar, I cannot distinguish any projections for any of the vertebra below the 5th cervical. He commenced complaining of severe pain about the foramen magnum, about January 1st, and the tumor at that point increased in
at that time, though now appar-  
ent pty. I consider this ailment a  
mamentation of la grippe. When tired,  
he complains of a tingling sensation in the  
third and fourth fingers of his left hand.  
I view the primary lesion of la Grippe as  
a neurosis, followed in many instances by  
sequelæ threatening life, through pulmonary  
or bronchial disease.

DIPHTHERIA.

BY A. BOWEN, M. D., NEBRASKA CITY, NEB.

Eleven years since, at the request of  
this Society, I addressed you upon this  
subject; and if to-day, at the request of  
your “Chairman of Committee on Prac-  
tice of Medicine,” I come before you  
and say that I have no new suggestions to  
make on treatment, you may think that I  
lack the spirit of progressiveness and that  
the light which science sheds over all things  
had not visited my eyes. The revelations  
of nature are old, and the power of drugs  
remain the same to us that they did to our  
fathers. The same treatment with which  
I used to abort tonsillitis forty years since  
in the Catskill mountains, is all-sufficient,  
and ever has been, in extinguishing diph-  
theria, if the patients are seen early and  
treated from the first with over-bearing and  
persistent earnestness. Nothing less than  
this will answer and this always will.

I am not blind to the fact that different epi-  
demics of diphtheria, like different epi-  
demics of small pox and scarlatina, pos-  
sess different degrees of malignity, and  
will claim their victims: but I do know  
that all of you who are terribly in earnest  
can limit the mortality to less than five  
per cent. I do know—I do not conjecture—  
that German children are more obnoxious  
to the disease than American children:  
probably this is due to their different  
mode of living. Three years since, I was  
called to two families of Germans, eighteen  
miles from my residence. Seven members  
who were children in one family and four  
in the other. They had contracted the  
disease from the contagion of a corpse  
at a funeral. One in each family had  
had the disease for several days before I  
was called. I said to the parents that  
these two will die. Knowing that my  
word was law in those two houses, I un-  
hesitatingly commenced the same course  
of treatment through the day among the  
sick and the well: among them was one  
baby who nursed a bottle. Their throats  
were earnestly swabbed every two hours  
during the day; and the sick during both the  
day and the night. As fast as they came  
down with the disease I swabbed during  
the night as well as during the day. Every  
child had the disease and every child  
(except the one referred to above) in each  
family recovered. These two are the last  
children I have lost of diphtheria.

When epidemic commenced last Novem-  
ber the Chairman of the Board of Edu-  
cation wrote to all the medical men in  
town requesting their opinion of the  
necessity of closing the public schools:  
all but one dissuaded them from closing.  
It was the mildest and the widest spread  
epidemic of diphtheria I ever saw. Still,  
there is enough diphtheria in every case,  
to kill, if neglected. I always grow  
poor in flesh when treating diphtheria.  
As a gargle for children who are exposed  
to contagion or infection, a 4 per cent  
solution of carbolic acid, thoroughly mixed  
with cold strained tea, either gargled, or  
better yet, mopped deep in the throat every  
four hours; or if the disease has invaded the  
nostrils, or nares, or if it is threatening  
them, the same wash sent through a two  
or three drachm glass syringe with a some-  
what forcible jet; a small cork being fitted  
to the nostril of the child with an aperture  
through the cork to fit the nozzle of the  
syringe and the child always held per-  
pendicular. If the disease has invaded the
throat, (as it usually has), then more earnest means must be used there; of twelve parts by measure.

One part is to be carbolic acid.
Three parts are to be sulphurous acid.
Four parts are to be glycerine.
Four parts are to be Mur. tincture of iron.
The throat to be swabbed or mopped deep with this solution every two, three or four hours. They must eat and they must sleep, and here comes in the tact and discretion of a good nurse, and all you possess of these qualities you will find available. Intubation is a more respectable apology than laryngotomy, but the latter is merely bloody excuse for early neglect. Arrest the disease at the earliest moment and save from its terrible alternatives—asphyxia or septicaemia. If your patient resists you, swathe him or her tightly from the chin to the toes, and get the mouth open by the help of a soft pine wedge: they will not resist you if their throats have been properly educated.

As to the cause of diphtheria we do not possess much more accurate information than we do of the cause of small pox, or scarlatina, or the epizootic. We hear that the latter disease has struck our Eastern coast and we know that in about so many days it will show itself in our stables, though the wind may blow a gale from the west all the intervening time. Diphtheria is surely "a pestilence that walketh in darkness." Belknap says in his history of New Hampshire that a visitation of what was probably (from the description) diphtheria first visited our country in 1735. Of the first forty who were attacked, none recovered.

In the parish of Hampton Falls, twenty-seven persons died in five families and one sixth of the population died in thirteen months, and twenty families buried all their children. We may have reason to fear (for we have seen a similar error committed in our day) that some physicians may have depleted for the wretch or which accompanies the disease, finding that it is adynamic in its character. Belknap says of the Boston visitation at this period, "The physicians having by desire of the selectmen held a consultation, published their opinion that it proceeded entirely from some occult quality in the air." Can their successors of the fourth generation give a more definite answer with assurance? And at what earlier day did an American town institute scientific inquiries as the basis of sanitary measures? I cannot look upon diphtheria, even in our present ignorance of its prime cause as one of the opprobria medorum, but as a disease to be met earnestly and in a hopeful mood.

REFLEX PAIN.

By Chas. C. Allison, M. D.

Pain, though generally expressed at the seat of the lesion or at the distribution of the affected nerves, may be transferred or reflex in character and, therefore, difficult to interpret.

The essential factors for reflex pain are an afferent nerve, a transferring center and an efferent fibre, forming a reflex arc; the intricacies of this arc offer the most puzzling deflections in the cranial and pelvic regions. The reflex centers are distributed along the central nervous system from the cerebral cortex to the pelvis; while some ganglia at a distance from the cord may transfer the impression of the irritant.

Clinically we find reflex pain more frequently on the left side and in females. In females from lowering of the general condition with want of resistance and nerve co-ordination and lack of inhibitory control, allowing of undue reflex activity in the lower centers. The predominance of left sided pain has been variously
accounted for: By Luska, who says it is because the vena azygos on the left side is compressed by the aorta and thoracic duct 'causing' a congested condition of the left side.

Uterine manifestations are said to be left sided on account of the pampiniform plexus being compressed upon by the sigmoid and has, moreover, a right angle to overcome in emptying into the renal vein. The reason given by Duchenne, however, seems most satisfactory. He claims that the phenomena of the left sided pain is due to the activity of the right side in the vast majority of cases, in protecting the left side, while the left side remains relatively passive—allowing of nutritive inactivity and consequent physiological inferiority or predisposition to morbid change.

To illustrate: tubercular and pneumonic infiltrations generally select the left side—ovarian hyperæsthesia is found more frequently on the left side—the left breast is oftener the seat of cancerous affections than the right—the left kidney suffers more pathological changes than the right and numerous neuralgias select the left side. This reason, therefore, has plainly the clinical proof of general inferiority and another anatomical condition which should be taken into account is the situation of the emotional center on the right side of the brain in a position corresponding to the speech center on the left, and in left-handed people this position is reversed. Some room for discussion may exist in most cases of reflex pain, but there are anatomical and physiological facts and landmarks which, being remembered, will assist largely in locating the causative irritant. In this study the sympathetic and cerebro spinal systems are considered together.

The cranial nerves are so intimately connected with the cephalic and superior cervical ganglia of the sympathetic that irritants may be reflected almost miscellaneously to the different nerve terminations in this region—the organs of special sense come into prominence and the field of the specialist is suggested. The brachial plexus supplying the arm communicates with the middle and inferior cervical ganglia and first dorsal of the sympathetic from which the cardiac nerves take their origin; hence heart irritations are prone to be conveyed to the inferior cervical and first dorsal origins and transferred to the shoulder and arm. The six upper dorsal nerves supply the chest walls, the pleura and with the sympathetic the lungs from which association arises intercostal pain from pulmonary congestions, and the intercosto-humeral nerve, or lateral branch of the second intercostal, communicating with the lesser internal cutaneous of the arm gives rise to pain in the upper and posterior part of the arm in pleural and lung changes; a fact spoken of by Hilton in "Rest and Pain."

The lower dorsal nerves supply the muscles and skin in the dorsal and lower abdominal regions and the sympathetic associations afford nerve supply to the abdominal viscera. The greater splanchnic which mainly supplies the organs which have to do with digestion, takes its origin from this portion of the dorsal region—mainly from the sixth to the tenth dorsal, hence, irritations about the stomach, liver or pancreas will probably be appreciated about the inter and infra scapular regions. The lesser splanchnic and renal plexuses coming from the lower dorsal region account for the pain of renal colic being felt about the anterior superior spine of the ilium, about the genitals from associations with the spermatic plexus and the inferior mesenteric, and in the lower dorsal regions from reflection backwards in the posterior dorsal branches. The lumbar plexus supplying the leg above the knee, the lower abdomen and the external part
of the hip associates with the inferior mesenteric and spermatic plexuses of the sympathetic.

The transferred pain of hip joint disease to the inner side of the knee belongs to this zone—the obturator nerve supplying the joint and skin about the knee. The lower visceral disturbances, including the sigmoid upper rectum and colon, are prone to be noticed in the hypogastric and umbilical regions on account of the origin of the superior and inferior mesenteric plexuses coming from the aortic and this plexus directly from the solar. We have, therefore, the symptoms of hernia, valvulus, and early appendentes felt about the umbilicus. The sacral plexus supplying the leg, perineum, genitals, gluteal and anal regions, displays communications little less complex than are those found about the cranium.

Vesical calculi generally cause pain in the perineum, genitals, loins or in the heel,—the fourth sacral supplying the base of the bladder, sends a communicating filament to the sacral plexus which allows a distribution over the pudic in the perineum and genitals or over the great sciatic in the heel. Uterine or ovarian irritation felt in the heel is due to a transfer to the sacral plexus or to congestion and pressure upon this plexus.

The frequent reflexes between the third portion of the rectum and the urethra or bladder can be attributed to the pudic or fourth sacral and diligent research will throw light upon the most obscure cases. The upper rectum and sigmoid, however, are less sensitive, but have a more abundant sympathetic supply with symptoms correspondingly vague.

Careful investigation will, I am sure, account for the nervous rectum of Goodell, the rectophobia, of Kelsey, and the irritable rectum, of Mathews. (1) By locating an abraded surface with an exposed nerve trunk high up in the rectum, or (2) By revealing an accumulation—probably small—of fecal material in the sigmoid, or (3) A congested condition from constipation attending which pathological conditions will be found, and the persistent vomiting, the disordered digestion, the irritable bladder or menstrual irregularities which seem to have no definite cause can be accounted for, and in this location it is the inferior hypogastric and inferior mesenteric plexuses, with their immediate communications and functional relations with pelvic organs and their direct supply from the solar plexus that makes this field so prolific of reflex disorders.

**DISCUSSION.**

Dr. Bridges: I think this is a paper which should call forth a great deal of discussion. It is a very important subject. There is so much uncertainty about this condition of reflex pain that it is of the utmost importance for us to know under what conditions they occur; also the nerve relations, one to the other, in order to ascertain all the phenomena and pathological conditions connected with it.

Now, as an illustration, let us take hip joint disease, where we have pain referable chiefly to the knee: Probably half a dozen times in my experience and practice I have come across cases where disease of the hip joint had been treated for knee-joint trouble, on account of pain being constant in the knee-joint instead of in the hip. We also see cases of spinal irritation where pains are reflected from the spine to the various parts of the body. We see this illustrated in our cases of spinal disease of an organic character; and so you see, in practice in ascertaining the absence or presence of any cause which can give rise to the pain, the principle that reflex pains do occur, we should thus go on and ascertain the exact causes, which are located elsewhere.

We often see indications of locomotor
ataxy: pain referable to the extremities, lightning-like pains, etc., and while these are given as one of the symptoms of locomotor ataxy, we frequently find pain referable to other regions. I have seen several cases where pains were referable to the stomach, which were persistent, and where there were no pains elsewhere in the body. In such cases, there being no other symptoms upon which to base a diagnosis, the attention of the physician, in the commencement of the disease, is entirely called to the organ in which the pain is supposed to be. Therefore, in different kinds of organic lesion, the cause of the pain is not ascertained and the patient is not relieved. I think, therefore, that our attention is not very often called to this class of subjects in medical societies, and I would like to hear the paper pretty thoroughly discussed.

Dr. Gifford: If you want more discussion, there is one case that has come to my attention, which is so remarkable a case of reflex pain that I think it is worth relating:

The patient, not a patient of mine, was very fond of playing the piano. Whenever she read music she was obliged to stop on account of severe toothache in the region of the lower jaw. A dentist failed to discover anything wrong, and the case was a sort of a mystery, until her attention had been drawn to her eyes, and she was found to have a well-marked weakness of the muscles of one eye. The peculiar feature about the case was, that whenever she read music she had pain, but had no pain when she read ordinary print. The explanation of this was, that when she read ordinary print, as in reading a book, the book was held so that the strain fell on the strongest eye and she had no pain; but when she read music again, she had toothache. An oculist fixed her out all right and she had no more pain.

Dr. Allison: The only thing I wish to say is, that when the ordinary anatomical landmark, and the visceral organs are examined, and no reason can be found for the pain complained of in a certain region, I desire to suggest that an examination of the spinal region for spinal irritation is imperative, because, we very often discover there, or from that examination, the cause of the reflex pain. And it is spinal irritation which seems to give us the most widely reflex pains and symptoms which are sometimes unaccountable in any other way.
THREE CASES OF TRACHEOTOMY.

By B. B. Davis, A. B., M. D., McCook.

The operation of tracheotomy has become so common that to burden this Society with a record of cases may seem trite. Were it not so generally an emergency operation, there would be no excuse for presenting this report. The cases, I apprehend, are not much different from those which are met yearly by most practitioners; but the value of a report among practical men is not measured by the rarity of the case. What we all wish to discuss and study is that class of cases which will be likely at any time to become of great personal interest to any one of us. This is my apology for presenting such a threadbare subject.

Case I. [This case was reported in the September, 1889, number of The Omaha Clinic. I quote from that journal.] Rose W., a slender brunette, aged eight years. Was called to see this patient and found tonsils moderately swollen, some small patches on each, and made the mistake of supposing I had a case of follicular tonsilitis to deal with. Called again the next morning and found the patient so much better that the case was dismissed from my mind, when, thirty-six hours later, I was informed that severe symptoms had supervened and was asked to see her again. Found her with labored breathing and a well-developed case of croup. On inspection of the fauces the patches were found to have disappeared. Was informed that the patient had been playing in the yard that morning feeling almost as well as ever.

Treatment. — Chlorate of potash and tincture of the chloride of iron every two hours, alternating with bichloride of mercury, gr. 1-100. Also free stimulation with brandy, and steam inhalations.

Was summoned the next day at 5 a. m., and found patient with very labored respiration and much cyanosis. Came to the conclusion—the larynx was filling up so rapidly—that tracheotomy should be done. But the father was not yet prepared to give his consent to so radical a measure.

At 11 a. m., in company with Dr. Z. L. Kay, I called at the house. We found the patient in extremis—obstruction of the larynx being almost complete, the face almost black from carbonic acid poisoning. The father implored me to perform tracheotomy or do anything to save his child. I told him it was too late to expect to save her; that, if it was attempted, she would probably die on the operating table; but that, if he wished it, we would attempt it. He desired us to proceed, and assisted by my friend, Dr. Kay, I rapidly dissected down to the upper tracheal rings, and quickly wiping away the blood, opened the trachea by severing the first and second rings. A large piece of membrane was grasped and easily removed, after which a hard rubber tracheal tube was readily inserted. But, before this was accomplished, the little patient stopped breathing, and we thought her dead. As soon as the tube was introduced, artificial respiration was begun, results not really being expected, but in obedience to the instinct for preserving human life. Continuing for some
moments we were rewarded by seeing the patient gasp, and by the end of ten minutes she was breathing calmly and freely. The cyanosis quickly passed away, and she fell into a calm and refreshing sleep, which continued for more than an hour.

But within a few hours the membrane, we were led to believe, began to extend downward and for the next four days we had scant hopes of saving the patient. The tube would become obstructed frequently with fragments of membrane and mucus, and I was compelled to remain in constant attendance day and night, cleaning the tube every few minutes. It was ten days before the membrane ceased forming so that I ventured to finally remove the tube. This patient is now a bright girl of fourteen years in the best of health.

This operation was probably the more trying from the fact that during my college course and hospital service, I had never been so fortunate as to witness a case of tracheotomy.

Case II. Carl A., a bright, black-eyed boy, aged 5 years. Was called to see him December 20, 1890, with his attending physician, Dr. Stutzman. Found the patient suffering from well-marked pharyngeal diphtheria besides diphtheritic croup: had been sick three days. There was at the time of my first visit some cyanosis, a good deal of dyspnea, but the symptoms were not yet so alarming that immediate tracheotomy was deemed advisable. The parents were enlightened in regard to the merits and risks of this operation, and told of the exceedingly great fatality of the disease without operation as well as with it. It was decided that if the severity of the symptoms increased, I would be summoned to operate. The temperature was at this time 102 degrees and pulse 116.

Treatment:—Steam inhalations and vapor of oil of eucalyptus. Quinine, iron and whiskey internally.

Dec. 21st, 2 p. m. Called to see patient in haste and found extreme cyanosis, labored breathing; all the accessory muscles of respiration being called into action. The child was upon his knees in bed, throwing himself frantically in his efforts to get air—a picture which, once seen is never to be forgotten. The parents were informed that the only possibility of saving the child's life was to tracheotomize. They readily gave their consent, and, with Dr. Stutzman's assistance, I at once did the high operation. Following the usual struggle to induce respiration after the inrush of air when the trachea was opened, deep regular breathing immediately supervened. The cyanosis quickly disappeared and the child fell into a calm, refreshing sleep.

Dec. 22d. Patient passed a fairly good night. Respiration good. The temperature during the night and day fluctuated between 101 1/2 and 104 degrees. Clearly, there was a good deal of systemic poisoning. Pulse was 110 to 130 per minute. Patient sweat a great deal but took some nourishment. On the whole, the outlook was far from encouraging.

Dec. 23d. Temperature, pulse and all other conditions about the same. The child showed some inclination to make use of his playthings in a fitful way. The canula was kept clear without much difficulty, and his countenance showed that he was getting an abundant supply of oxygen.

Dec 24th, 9 a. m. Temperature 102 degrees, pulse 120, respiration easy and regular. Patient was sitting up in bed playing with his toys. He seemed to be doing well and everything looked more promising. At 1 p. m. he was sitting up in the best of spirits. All at once he fell back exhausted and within a few minutes he was dead, evidently from heart failure.

Case III. Emma P., a brunette, aged 4 years, was attacked by pharyngeal diphtheria of a mild grade January 10, 1892. Her sister, Mabel, aged 10 years, had been
down with a severe type of the disease since January 4th. From the first Emma had a croupy cough, though there was no obstruction to respiration until January 13th, the fourth day of her attack, when her breathing became greatly labored and some cyanosis became noticeable. I sat down and explained fully to the parents—remarkably sensible and intelligent people—the tendencies of the disease, and the nature of the operation of tracheotomy, its dangers, etc. Also did not attempt to disguise the gloomy outlook from purely medical treatment. I urged that if it became necessary to do the operation at all, it should be done early, before the vital powers were exhausted by vain struggles for air. They gave her treatment entirely into my hands and told me that when the time came that an operation was deemed advisable, they wished it done without delay. That evening, at my request, Drs. Kay and Jones were called in consultation. As the little patient's respiration had become somewhat less labored, operative interference was postponed for the time.

January 14th. The day passed about the same as the preceding day. Temperature ranged from 101 degrees to 102.5 degrees, pulse 110 to 120. Respiration more labored as evening approached.

January 15th, 4 a.m. Dyspnœa had become so great and cyanosis so marked that immediate tracheotomy was deemed advisable. With the assistance of Dr. Kay and Miss Wibley, the nurse, the operation was done. I never before so fully realized the disadvantages of a short, fleshy neck and a small trachea. The light was poor; the oil in the lamps had evidently evaded the state oil inspector. Hemorrhage was severer than in either of my other cases. My first incision into the trachea was insufficient and had to be enlarged. During this process I lost my grasp of the trachea which I had been steadying between the left thumb and the index finger. Everything seemed to be going wrong, and for a time it looked as if the little patient was going to succumb before the tube could be inserted. Artificial respiration was employed with energy and at last we were rewarded by noting a shallow gasp; but the artificial respiration had to be continued at intervals for half an hour. The day passed quietly and comfortably on the part of the patient, parents and physician. Little difficulty was experienced in keeping the tube clear, and the temperature kept at less than 100 degrees all day.

January 16th, 9 a.m. Passed a good night. Temperature 99.5 degrees; respiration good.

8 p.m. Has put in a good day, but the discharge from the tube is more viscid and more difficulty is experienced in keeping it cleared.

January 17th and 18th. Everything going favorably. Temperature ranges from 98.5 degrees to 99.5 degrees. No trouble with respiration as long as the tube is closely watched and viscid mucus and fragments of membrane removed as fast as they make their appearance.

January 19th, 5 p.m. Patient's temperature, which had been almost normal since the operation, ran up to 103.5 degrees; pulse to 140; and respiration to 54 per minute. A good deal of cough. Rales all over the chest on both sides. Everything pointed towards a rapidly fatal termination.

January 20th, 8 a.m. Patient passed a desperate night. The respiration once ran up to 80 per minute, while the pulse was 170. At day-light the symptoms became a trifle better, but not enough improvement to lighten the gloomy prospects.

January 21st and 22d. During these two days the respiration continued at 45 to 60; temperature 102 to 103 degrees; and pulse at 120 to 150 degrees. The child could not be induced to take any
nourishment. On the 23d at 9 a. m., respiration, 40; temperature, 101 degrees; pulse, 120. All the symptoms seemed better except that there was almost complete suppression of urine. Used an alkaline diuretic with small doses of pilocarpine.

January 25th. Slow improvement. Temperature, 99.5 degrees; pulse, 116; respiration, 36. The secretion of urine almost normal in amount.

January 26th. There has been some sloughing of the tissues about the operation wound, but it is now presenting a healthy granulating appearance. Not yet possible to remove the tube. The obstruction in the larynx not yet wholly removed.

January 31st. Vain efforts have been made every day since last notation to dispense with the tracheal tube, but it was not accomplished until to-day, when it was finally removed, it having been worn constantly for fifteen days. I feared much ulceration on account of the prolonged use of the canula, but there was very little. From this time patient gained rapidly and is now as strong as ever. In this case I made use of the aluminium tube which I show you. It has the disadvantage of having no fenestrum leading to the larynx and permitting respiration through that passage, but its lightness commends it as the best material yet used for this purpose.

There seems to be a somewhat widespread opinion that most of the successful tracheotomies have been in cases of pseudo-membranous croup, and that the diphtheritic cases quite generally succumb. It is not my purpose to open the question of the identity or duality of diphtheritic and pseudo-membranous croup. An examination into the evidence of the diphtheritic character of these cases may prove of interest. The two sisters and aunt of Case I were attacked with undoubted pharyngeal diphtheria while she was still wearing the tube. A sister of Case II was affected with pharyngeal diphtheria simultaneously with himself, and two other members of his family had the disease within a week. Case III clearly was infected by the older sister who had pharyngeal diphtheria of an almost malignant type. This evidence will probably be more convincing than the record of the cases themselves, though I do not think any one would have failed to recognize diphtheria on examination of the throats of Cases II and III. The evidence in case I was not so conclusive, and if it were not for the side-light reflected by the attacks of the other members of the family there might be some grounds for doubt.

The operation of tracheotomy is not always an easy one. The circumstances are trying to the most stoical. Some cases seem easy, but in many instances I consider it to be one of the most difficult operations with which we have to deal. We cannot always send for a surgeon to do our work for us. It is pre-eminently a calamity operation and must be done promptly, if at all.

I do not wish to disparage medical treatment, for there is no doubt it can accomplish something. Six years ago, J. Lewis Smith stated that the average mortality in cases of croup treated only medically was 95 per cent. Thus it would appear that medical treatment in the past has not written for itself a very brilliant chapter. Even with so small a percentage of recoveries, there can be no doubt that an energetic and intelligent treatment should always be followed, but let us not be so intent upon this line of work that the surgical side of the case is neglected until too late. For, use medical means ever so thoroughly, there will still remain a large majority of cases which are utterly hopeless without surgical interference.

According to Jacobsen and J. Lewis Smith, even where tracheotomy has been resorted to, there remains a mortality of
65 to 75 per cent. This is still very high, but can it not be reduced? It seems to be largely the custom, especially with those of us who answer to the title of general practitioner, to look upon tracheotomy as a last resort. Many times this has been carried so far that the patient has been allowed to die through that accursed idea of being "conservative." I have known a number of cases of croup which were allowed to die on account of the hesitation, or timidity of good physicians, men who are able to treat other surgical cases with promptness and skill. If I can in any way impress upon such men that their responsibility in cases of croup extends further than to supply good medical treatment, this paper will have been written to some purpose.

Frequently the operation has been postponed so long that the child dies on the table or has the vital powers so reduced that death is only delayed a few hours by the presence of the tube. These failures add to the prejudices of laity and profession. Earlier operations seem to me the means of a considerable reduction in the mortality. The custom quite generally followed by many physicians when treating cases of appendicitis, of having a surgeon in joint attendance from the beginning, seems to me to be just as applicable in cases of croup. By taking this precaution fewer cases will be permitted to go without interference until too late. Just as soon as the symptoms become so severe that the vital powers are being greatly taxed in efforts to get air and are growing worse, nothing can be gained, but much lost, by delay. The earlier the operation, the better is the condition of the lungs, the better the heart's action, the less the exhaustion. Dr. Ranke, of Munich, says: "If a child with pharyngeal diphtheria has become hoarse, and shows laryngeal stridor and difficulty in breathing, which has already led to ever so short an attack of real dyspnoea, that child ought to be operated upon at once." This seems very radical, but if carried out systematically, I believe it would reduce the mortality many per cent.

The complaint is often heard that it is so difficult to gain the parents' consent. I have yet to be refused permission to operate where I thought it really needed and where I advised it. Several years ago I had a case in which I was not very sure whether an operation was advisable or not, and timidly suggested it. It was refused—as it ought to have been. It seems to me to be the duty of the attending physician, as soon as he sees that the trend of the case is towards greater laryngeal stenosis, to begin at once to prepare the parents for what he foresees will be inevitable. If this is done with intelligence and discretion, he will usually find that by the time the operation is fully indicated, he has the parents educated up not only to the point of consent, but many times to eagerness to have it done. If, instead of this, he delays saying anything to the parents until the time for the operation is ripe, they will shrink from it, and by the time they are convinced that what is suggested is not butchery but a lifesaving expedient, the little patient will probably be in eternity, or at least so far gone that the operation will prove a failure, and another neighborhood is prejudiced against "cutting children's throats." It is the failure which is given the harsh name. The success, no matter how brought about, will be viewed with complacency by the family and friends.

It is not intended to extend the limits of this paper to a discussion of the relative merits of tracheotomy and intubation. I have had no practical experience with intubation and it no doubt has its field of usefulness, but it does not seem to me that it can be applicable to the worst cases. Let those who wish, make use of intuba-
tion, but they will many times find that in spite of this measure, it will finally be necessary to resort to tracheotomy.

DISCUSSION.

Dr. Bullard: I would like to ask if you gave any anaesthetic?

Dr. Davis: I will say that in every case I did, but it only required very little and well-diluted with air.

In regard to the comparison of the results between tracheotomy and intubation, I have had a little experience; it is not worth a great deal, perhaps, but will take but a few minutes to relate it. I have performed tracheotomy three times with two deaths, and intubation twice with one death. The first three operations were those of tracheotomy; the last two were intubation. The case that recovered was a little boy twelve months old, and that operation was done for the removal of a foreign body in the trachea. The little child had insufflated a grain of corn into the larynx, and after struggling along for probably a week, it was deemed best to operate for the removal of the foreign body, as the paroxysms of coughing were so severe; the child becoming cyanosed. The child was given chloroform, and the opening was made in the regular way, but unfortunately the grain of corn which we presumed was there: (it was only a presumption, in fact the symptoms pointed to it and the other children said it had a grain of corn in its mouth) was not found at that time. The next day while we were dressing the wound the grain of corn was expelled through the opening during a violent fit of coughing. I presume the reason the grain of corn was not expelled at the time the tracheotomy was performed was, because the child was anesthetized and there was nothing of a reflex character to stimulate the coughing; but the next day the corn was thrown out.

The other two cases were of diphtheritic croup.

The cases in which intubation was performed were diphtheritic croup, and one bid fair to recover, but unfortunately the inner canula, or tube, became stopped up. When it was introduced it seemed to relieve the child at once, its breathing was quiet and calm, but finally, four or five days after the operation the child choked to death, because the tube became filled up, and the parents could not remove it to clean it.

So far as intubation is concerned, I believe that it is a better operation than tracheotomy, and will save a larger per cent. of cases. It requires, of course, some practice, but I would advise every physician who can to get all the practice in that way possible. It may be a little difficult to get that practice, but the only way we, as physicians, can obtain such practice is to take advantage of it whenever the opportunity presents itself. The finger must necessarily be introduced into the epiglottis a number of times before sufficient skill can be acquired to introduce the tube; and a very good plan to acquire that skill is, when you have a child dying in practice, to introduce your finger a number of times for the purpose of locating the epiglottis. It is not necessary to explain to anybody why you do it, and probably nobody would be curious enough to ask the reason of your doing so.

I believe if physicians were to provide themselves with a case of intubation tubes, there would be less occasion for tracheotomy, and probably more patients saved. It is probably, as Dr. Davis says, sometimes necessary to, in cases of intubation, perform tracheotomy.

Dr. J. E. Summers Jr.: I expect the Doctor is to be congratulated on the good results which he obtained in his three cases of tracheotomy. The results are a great deal better than mine and my proportion of successes is nothing like to being as good as his in this particular class of
diseases. I have done a good many tracheotomies. Most all of them have died that I have done for diphtheritic croup, or the same class of trouble; laryngeal or tracheal obstruction from pseudo-membranous diseases.

There are one or two points that the Doctor spoke of that are worthy of mention. That tracheotomy is often a difficult operation goes without saying, I think, for those who have had no extended experience in it. The Doctor spoke of his having had difficulty in introducing the tube after having opened the trachea; the opening having been a small one. Now, if he would provide himself with a suitable instrument to put in the trachea immediately after he makes the opening, he will never have that difficulty. It is the most valuable instrument I have, and has served me and helped me out of some very ticklish places. The operator should have a scalpel and a pair of dressing forceps, curved to go down into the trachea. An assistant should hold the lips of the wound apart while the tube is being inserted, and the canula may be placed in the tube afterwards.

The Doctor did not go into the subject of intubation, but I will say that if I have time I do not think I will ever do a tracheotomy for diphtheria without previously having tried intubation; and I base this thought upon my own horrible results in the operation of tracheotomy. I have done over forty tracheotomies, and my successes can be counted on the fingers of one hand. That is certainly not very flattering.

Speaking of laryngeal obstruction, I have had very little experience with intubation, but in doing the operation I find very little difficulty, whatever. It is a very simple thing. If a man will throw his head back so as to get the parts on a line, or so as to bring the parts down straight, there should be no trouble in introducing the tube. I think we ought all to provide ourselves with a case of these instruments. I believe the reason the results are better in intubation than they are in tracheotomy are, that we are allowed to do it slower. I know most of my cases of tracheotomy have been those in which I have been called in at the last moment. I was called to a case last winter and when I got to the house the child was choking to death, but I could not get the consent of the parents to the operation.

Dr. Peabody: I am pleased to hear my friend Summers give his cases, as he has done, because I have a liking for tracheotomy, though most of my cases have died. I wish to speak of two points in regard to the gentleman's paper, which is one of the best I have ever had the pleasure of listening to. The first point is, to try to educate the public, the laity, up to the fact that all throat troubles, laryngeal troubles, whether diphtheritic or not, are dangerous, and I know they will not speak of tracheotomy as I know it has been, by our friend, the Doctor, here. He is laboring under difficulties, as there are a great many persons who will say of a certain physician, no matter how eminent he is, "He will cut the child's throat and it will die." They do not let him cut the child's throat in time to save it, otherwise he, Dr. Summers, would have probably had as eminent success as the gentleman who read this paper. Delay is dangerous in throat troubles. I speak from a long list of cases.

Tracheotomy or no tracheotomy, they die, but it is in delay that the danger lies. If there were more tracheotomies, or intubations—I have never tried intubation—and if done sooner, the successes would be much more numerous.

The great point is to educate the parents and the people up to the fact that the doctor does not cut and slash with his knife whether it is necessary or not, but uses it in order to save life. It is in the early tracheotomies that the success lies.
Recently there has been considerable written, read and spoken upon the subject of medical legislation. The medical societies of this State, this among others, have had able and instructive papers presented upon this subject; therefore, we may not present anything new in this line at this time, but so long as this is one of the reigning topics for discussion and consideration, we trust you will grant us the privilege of being in the fashion.

It has been said that “Orthodoxy is my doxy and that Heterodoxy is your doxy,” also that “Orthodoxy has no eyes in the front of its head.”

We think, however, that from our standpoint as physicians, a better interpretation would be, “Orthodoxy is our doxy and Heterodoxy is quackery.” It seems to us that this subject may be divided into: First—Quackery, what is it; and its effects upon the regular profession? Second—What is the remedy?

Webster defines a quack as “boastful pretender to medical skill; an empiric; a charlatan.” Now, from such a definition, it is not a very hard matter at first thought to pick out of the profession such as resemble the aquatic biped from which the name is derived.

We all can recognize at a glance the man whose office sign is of the largest and brightest letters, and whose picture adorns each issue of our daily papers, and for whom some of our papers seem to cherish a most fond and affectionate regard; and who represents himself to be the only, and original cure-all, born with a cowl, seventh son of the seventh son, and name blown in the bottle. We have no difficulty in recognizing such a one as he goes along the streets, Samson-like in the strength of his long hair, and bedecked with his jewels of no great value. We all know such a one to be rotten at the core, rank and defiled, and that his odor smells unto high heaven. We hear sometimes of such a one doing a great and good deed. “Be not deceived, for ye shall know them by their fruits.” “Do men gather grapes of thorns, or figs of thistles?” Not very often.

It has been our experience and observation, that when we find a man dishonest in his professional life, he also will be found to be dishonest in his social, moral and domestic relations as well. If he is a gay deceiver in one particular, he is most likely to be found the same in all.

We all appreciate that it is a difficult task, however, to separate into two distinct divisions, the animal from the vegetable kingdom; also the fact that the nearer the counterfeit piece of money resembles the true coin, the more dangerous does it become. So, when we come to deliberate upon what is really quackery, and what is not, it is a pretty hard matter to draw the line and have our friends all on the side we wish them.

The nearer the “quack” resembles the honorable physician, the greater will be his power for evil and the more evil is he likely to perpetrate. Consequently it is the men in our own ranks who are so nearly honorable, yet dishonorable, that should be guarded with an eagle eye. From this professional wickedness in high places do we seek deliverance. Dishonorable practices and methods always come to light, and the brightest rays fall most readily upon him who wishes to be in the dark.

An abortion cannot be committed without it leaking out somewhere that such has been done; for if it be successful in restoring the patient to her pristine purity and health, and committing the offspring to the hosts beyond the river, she will have to tell her dear friends all about it, and if
unsuccessful, it is more likely to become public. A patient cannot be enticed away from us without sooner or later, our finding who did it and in whose interest it was done. “Be sure your sins will find you out,” and will some day “come home to roost.”

It does not seem wise to us that a medical man should persist in perverting the truth and incontrovertible evidence in promising to do more for a patient than he possibly can, when the truth in such a case will answer the purpose far better. Why persist that your patient has but a trivial ailment, when you are sure in your own mind it is a malignant disease and will eventually prove fatal? You will be respected if you tell the truth and are honest; if dishonest, you will lose your patient and his respect as well. We refer to willful dishonesty and deception, not to honest errors of judgment; we all know these are plentiful enough to cast discredit upon the profession. Why cast unpleasant reflections upon your neighbor or misrepresent his cases in the false idea of building up business? Have you forgotten that he has friends and that they are only too anxious to carry your remarks to him, and thereby, perhaps, the tables may turn some day and the “shoe be on the other foot.” This will be unfortunate, most unfortunate, for he may not have mercy; and can you blame him? Again there is a class of men who persist in sending reprints all over the land to Tom, Dick and Harry. We do not advocate it as out of place to send reprints to one’s friends or to the profession, if desired; because your friends generally know just who and what you are, and if the profession get tired of the communications, they can easily be deposited in the waste basket. To send reprints to the laity, however, savors considerably of heterodoxy and certainly is in very poor taste.

The fellow who is so anxious regarding the distribution of his reprints, is generally the same person who, when he changes his office, announces the fact by special letter to his own friends and to everybody else’s as well, that he is still doing business just around the corner. Again this same fellow will ring the telephone for a reporter to give him the particulars regarding the recent accident to Mr. A., if he is so fortunate as to get the case. The reporter, to be generous, states in the next issue of his paper that Dr. X. reports the “Honorable Mr. A. is a little better, or his condition is about the same.” Poor Mr. A. ! we wonder if he ever fully appreciates the great pleasure and notoriety he gives Dr. X., by bringing him thus before the public. If he did ever fully appreciate this condition of affairs, we wonder if he would pay his doctor bill. ‘He also is the same fellow who puts in not a little of his time telling his friends how very, very sick his patients are. How he thinks by his unusual skill and care, all will be well.

To be more specific, his cases of pharyngitis, tonsilitis, etc., are all diphtherial; his malarial troubles are all typhoid and every cough signifies consumption or pneumonia, according to the patient’s pocket book. We have known instances, such as above (of course not in Omaha), where even the laity have doubted the diagnoses, and it seems to us this is carrying it a good way. Or again, we see something like this in the paper: “Dr. X. was called professionally to Jonesville, and will do one of his special operations; he will return to his numerous patients soon. The doctor expects to enjoy a few days of much needed rest while away.” Poor Dr. X., that everybody reads about, needs a rest; so does the much abused and long suffering public. What would become of this little, insignificant world if Dr. X. should, by unfortunate circumstances, be gathered to his forefathers?

The late lamented Dr. D. Hayes Agnew
once said: "I don't have a great esteem for newspaper doctors;" and the example of his life should ever remind us it is unnecessary, for he owed nothing to such means as we have here alluded to, to gain his greatness.

It is obvious to any physician in the practice of medicine to-day, that we have just such men as these in our ranks, and that they bring more dishonor on the profession than the out and out quack, cannot be disputed. The laity cannot distinguish these from honest men; and do you blame them? for it is about all some of us in the profession can do to single them out, for they would deceive the very Elect himself, if it were possible.

The editors of our papers are no fools, and they understand this is a so-called legitimate way for the regular profession to advertise, hence is it strange that we are called to account for it once in awhile, for nobody pays for such mention? Oh no, that would be advertising. Why do physicians do such things, if it is not to lead the dear people to believe they know a little more than anyone else; that they have had a few more unusual cases than their colleagues; or that they are doing more work in a particular line than any other person engaged in the same line of work? Such methods form not the foundation for an abiding structure. It must of necessity crumble and decay. If our work will not bring us praise of itself, let us die without commendation. "Let another man praise thee and not thine own mouth, a stranger and not thine own lips," are the words of the wise.

The argument is advanced, why not allow all physicians to advertise, make it as legitimate for one as for another and all stand on equal footing? The fact is, if a physician advertises truthfully; confines his advertisements to plain statements of facts that can be proven, he gains nothing. It is in distorting the truth, it is in making statements to do something no one else can do (or he himself for that matter) that makes advertising pay. Just as reasonable for a physician to advertise and confine himself to the truth as it is for an attorney or minister; the one to advertise he will clear all clients who apply to him, especially those indicted for murder, or the other to advertise "I am the man to perform the marriage ceremony with neatness and dispatch at half the usual rates."

Upon the subject, should reputable physicians advertise and should medical journals publish the advertisements, a recent copy of the Medical News contains the following:

"The Journal of the American Medical Association prints the card of a physician, and in addition gives a generous and flattering editorial 'reading notice' of its patron."

This fact every American physician has to look squarely in the face; estimate at its proper value, and decide what he is "going to do about it."

Of course, far worse things are every day being done by journals, that by straining the English language may be called medical. Men eaten up with vanity and self seeking may publish their own portraits with uproariously laudatory autobiographical notices; may write, or hire the writing of wonderful puffs—"reviews"—of their own books; may found societies, and elect themselves officers of the same and all that. To such we have become habituated, as to the foul smells of dirty streets.

But the journals that do these things are not labeled "American" in an official sense; are not the official organs of supposed reputable medical societies, and do not claim for their advertisers anything more than good looks and personal popularity. Such things deceive only those that would be fooled by the portrait of the patent medicine man and that see a logical connection between a man's picture and his therapeutic power, or that of his nostrum.
There is an apologetic tone about the Journal's "reading notice" that apparently would excuse the advertisement on the ground that it is "only a plain professional card without puff, etc." One cannot help thinking of Thackeray's character; the girl that thought her mistake should be condoned because her illegitimate child was such a very, very small baby.

According to Dr. Gain's letter in the Journal, there are at Hot Springs some seventeen regular reputable physicians to some forty irregulars. In justice to themselves, the remaining sixteen regulars must now insert their cards in the Journal or be outgeneraled by the single one who has started the ball a rolling and who receives the Journal's commendation. Moreover, the Journal must insert their cards, and if just, must also give a eulogistic editorial "reading notice" equally as long for each as for its first advertiser. On what grounds also can it exclude the irregulars? There are all degrees of irregularity. The insertion of the one "reading notice" and card logically establish the Journal as a self-constituted judge of reputability and regularity, unless it consents to take the advertisement of the out and out quack as well as that of the non-advertising physician. It would seem a strange logic that would permit the advertisements—"limited"—of the reputable and exclude the non-descripts and disreputable. This is giving away the whole cause and slipping the leash off the necks of the whole pack of would-be advertisers.

The affair aptly illustrates the danger that besets the the question of the most limited of advertising, and also of the false ethics of the rule of doing evil that good may come, or of meeting the unprincipled advertiser with the weapons of his own forging. We do not mean to imply a word against the reputation of the single Hot Springs' physician who has hired the advertising columns of the Journal. This is a question wholly irrelevant. But if one of the seventeen may or should insert a card with a "reading notice" in one journal, the other sixteen should and must do the same; and not only in one medical journal, but in all. And if a medical, why not in the lay newspapers? And if only a card, why not the specialty? And if so much, why not a list of the cures, real or imaginable? It is absolutely impossible to draw the line between limited and unlimited advertising, or between advertising by an ethical, code-loving physician for a good purpose and by a sharper and a quack for his unlimited self-interest.

Moreover, every honorable physician in the land is waging a ceaseless struggle, often hard—and, because against secret enemies, often more hard—with quacks, and especially with the quacks inside the profession, who in sly ways are daily advertising themselves, but who are always careful to keep clear of the open methods that can be found out or proved. If the Hot Springs practitioner is logically right, or reluctantly forced by competition to advertise, so has each of us the same right and the same need.

The honorable physician at Hot Springs certainly has a hard lot; we sympathize with him most deeply and sincerely, but the way out of it all, is not that unwisely inaugurated by the Journal and its advertiser.

So the fact seems to stare us in the face that physicians have not confined their notices (so called) to the daily papers, but have succeeded in getting them into medical journals, and journals too, which claim to be high exponents of medical ethics. Such notices, when boiled down, come pretty near advertising. If perchance one of these Heterodoxical fellows is called in consultation with you, he is constantly on the alert to find an opportunity to make "an impression" upon the patient or his
friends. His airing of superfluous knowledge is most wonderful; always when there is someone around to hear it, however. It is always well to keep him well guarded at such times; if this be impossible, finish the call as soon as you can and get away.

If one proposes to engage in the practice of medicine and be respectable in all his professional bearing, he must of a necessity have truth and honesty burned deep into his very soul. He must do more; he must have made an honest preparation for the discharge of all the duties of his profession. He may not be brilliant, he may not have money to buy himself favor with the faculty of his Alma Mater or to give him prestige in society, but if he is honest and industrious, you need never fear his becoming a "quack."

No medical college can make an honest practicing physician, nor do we expect them to, but they can do considerable in that line if they will. Let all faculties first purge themselves, then see to it that they accept no student whose character is tainted. The usual clause in the annual announcements of our regular colleges regarding "sufficient evidence of a good moral character," etc., is too frequently a snare and a delusion. The first thing is to get the student and his money, and the next is to graduate him if he does not prove to be too great a blockhead. The profession also should encourage no would-be candidate for the degree of Doctor of Medicine upon whom rests any doubt regarding his honesty and integrity. If we, as physicians do not draw the rein in some way, our profession will become prostituted to the level of merchandise traffic; subject to all the deceit and frauds of the trade and we, ourselves, left to mourn. Let us stand together as one man, not only against the out and out "quack," but against the deceiver, the libertine and fraud in the ranks of the profession as well, and thus we best fill the position of the "Orthodox Physician."

REPORT ON PROGRESS IN MEDICINE.

BY J. P. LORD, M. D., CHAIRMAN.
Professor of Anatomy John A. Creighton, Medical College, Omaha.

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

Pursuant to a time honored custom I beg leave to submit for your consideration a report on progress of medicine during the year since last we met. I shall endeavor to confine myself to that period. Of course much has been written, but I shall, as far as able, endeavor to separate the wheat from the chaff, and dwell more especially upon those lines of thought and apparent advances which give promise of bearing the most fruit and which have, to my mind, the quality of stability most marked. To judge correctly as to what, in the year immediately preceding, is progress, and what is not, is, at best quite difficult, and your humble servant does not presume to be an unerring authority, indeed no person can, for years instead of months are required to establish new facts, eliminate error and establish true scientific attainments and formulate the best treatment. Neither can the few accomplish these things; the profession is the leveler and all must be tested, even by fire in the crucible of professional opinion. This is well illustrated by the experience of the past two years, a part only of which time was required to witness the rise and fall of Koch's lymph. Perhaps never before have the recommendations for the treatment of phthisis been so rational as at present. Heretofore brilliant results have been sought and results impossible of attainment have been striven for in curing incurable lesions. The profession being out of conceit, as it were, in the treatment of well developed cases of phthisis, have now receded and are content to work along the line of prevention, and limit their heroic efforts to attempts at cure to the early
stage of the disease. And their less preten­tious efforts are being rewarded with greater success. Neither are the efforts so heroic as formerly and less reliance is placed in purely drug treatment. Climatic treat­ment is growing in favor and with increased knowledge of its adaptability, greater wisdom in selection of proper cases and timely permanent removal to the more salubrious clime for the phthisical subject, is robbing the disease of half its former horrors.

The open air treatment, as recommended by Daremburg, would seem to be rational and as he claims, “a valuable adjuvant of all therapeutical treatment.”

Of late, hospitals for consumptives are strongly advocated, not alone for the direct benefits received from improved surround­ings, and every facility at hand for the ready application of improved methods by skilled attendants, but, for this causing a separation of individuals who are surely a menace to the public health. The estab­lishment of special sanitaria in mountain­ous regions of known climatic excellence for the tuberculous who are more financially favored is strongly advocated. Flick, of Philadelphia, has presented in a very forcible manner the necessity for government aid in exterminating tuberculosis, a disease of well known infectiousness, de­stroying more than 100,000 of our people annually. And as he, as well as others, claims, almost entirely preventable by intelligent and well directed effort.

One of the most fruitful sources of con­sumption is now held to be from eating tuberculous meat and milk. The preven­tive measures adopted operate only indi­rectly, certain states having required inspection of all imported cattle to guard against infection of their herds.

It seems a sad commentary on the in­telligence of our people and on our nation that legislation should be made solely for the protection of the purse, instead of the health of its members. We have govern­ment meat inspection because Germany’s trade demanded it. We have state vetri­narians to protect herds and their owners. It will have to be at some future time that your chairman will report that an advance in preventive medicine has been made by our having inspectors for the protection of the life and health of the people.

Among the purely therapeutic agents, cresote, as for several years, holds first place as a remedy most nearly approaching specific qualities. Its dose is not mater­ially increased but its frequency is, and it should be increased slowly up to fifteen grains daily and even higher. The purest beechwood cresote is insisted upon.

There has been a somewhat heated dis­cussion across the water as to the similarity or identical features of the Koch-Eberth bacillus and that of the bacterium coli commune, it being held that under similar conditions or treatment that the latter assumes the characteristics of the former. But be that as it may, the effects upon the human organism are quite well understood and the management and treatment of typhoid is making very satisfactory pro­gress. The treatment by baths, after the methods of Brand or some modification, is increasing in favor which seems amply justified by results. Dr. Beverly Robin­son has been making some experiments in the treatment of typhoid by the use of large quantities of water internally, from five to eight pints daily in addition to the usual generous milk diet. There was little or no trouble in getting patients to take this amount and the results were very satisfactory. The fever was reduced, and all symptoms ameliorated. The urine was markedly increased, the cutaneous transpiration made free and the claims of the author seem established by the results in his trial cases. The toxic element is readily eliminated by increase of urinary flow and by free sweating. The fluids of
the body are increased and the animal cells are protected from poison or destruction by dilution of the products of tissue metamorphosis and germ excrementitious substances. The hydropathic treatment would seem to be the fad. Dr. Jas. Barr, of Liverpool, has been using the continuous bath and with flattering results. Others have used enemas hot and enemas cold with some success. While the treatment by antiseptics may be theoretically correct, it is a matter of extreme doubt whether any alleged benefits are due to their direct germicidal properties. The moderate use of chemical antipyretics is accorded to in certain cases for a brief period.

The milk diet in typhoid, intelligently administered, maintains its ground though unsuited to some cases. It has been charged that it lacks in carbohydrates, so much needed in fever of a protracted form, and that more harm might come from a too rigid maintenance of the milk diet than by a certain moderate allowance of a more solid food containing the coveted carbohydrate.

The typhoid germ has been found infecting the milk of the dairies and the cause of an extensive epidemic has been traced to its very source upon a dairy farm. Having knowledge of this new medium for infection, and being made aware of its dangers, new triumph can be scored in prophylaxis.

That typhoid is communicated by the patient solely from emanations from excreta is denied by Dr. Secord, of Bezires, whose experiments showed that the bacillus was communicated to water previously sterilized, into which he had caused the breath of the typhoid patients to pass by means of tubing, which would indicate that attendants upon typhoid cases are not immune entirely though the stools and urine are immediately and thoroughly sterilized, and that the bacillus may be carried in the steam from sewers and open vaults. All of which would seem to account for the occurrence of cases where the water supply was of undoubted purity and all the ordinary sources of infection eliminated.

There has been little written on scarlet fever and there has been no material change as to treatment. Bathing for hyperpyrexia, allowance of abundance of water and milk as a diuretic, stimulants, antiseptic ointments and gargles, are generally favored.

Primary idiopathic peritonitis would seem to be a thing of the past, the surgeon having handicapped the dead house pathologist. It is now held that where an acute peritonitis does not yield to saline treatment within a reasonable time, that operative interference should be instituted. That the dangers from operation are less than continued treatment on the conservative or on the so-called expectant plan. Thus we see the surgeons fencing in more of our former pasture field. While the old controversy goes on as to the value of this or that drug in pneumonia, the mortality remains practically unchanged. Flattering results are reported from the use of chloral. Balfour says that it slows the heart by paralyzing the cardiac-ganglia, and it dilates the arterioles by paralyzing the vaso motor centers. It is hypnotic, analgesic, and it diminishes and ultimately abolishes all reflexes, while the antipyretic action is in the right direction. Besides soothing pain, stopping cough and relieving insomnia, chloral really seems to shorten the duration of the disease or favor an early crisis.

Cold baths are finding favor and the application of ice in the ice cradle in a series of experiments gives the lowest mortality of any treatment. There is no longer any doubt of the germ origin of pneumonia and the profession is becoming impressed with the necessity of exercising precautions against its spread by infection and to limit its extent by prevention.
It has been ascertained that animals that had pneumonia are in a great measure immune from repeated attacks, because, as has been determined, their blood serum contains an anti-pneumotoxin, so-called, and that the serum of these animals will prevent or limit the course of the disease in other animals. The experiments are about on a par with those of Behring and Ketasato in diphtheria and tetanus and those of Wooldbridge in securing immunity against anthrax. And while the profession is in an extremely hopeful attitude in contemplation of these possibilities, it is evidently under restraint, lest it become too gullible in the light of a recent experience. Indeed the science of medicine would now seem to be occupying the morning horizon of a great dawn, and it is not fanciful to believe that we of this generation, the most of us here to-day, will live to see the medical science glorified in the splendor of its achievements. When more than ever before, a man will be honored because he is a doctor.

Not the least interesting of the subjects discussed during the year and by all odds the most popular, not excepting tuberculin, has been the treatment of the alcohol habit.

For many years Dr. Crothers has been preaching that drunkenness is a disease. He and many others have treated cases from this standpoint. There are numerous institutions in the east and have been a number of physicians throughout the country who have treated successfully and in a regular way by methods and treatments almost identical with those in vogue at present, and there was nothing remarkable about that. But lo! when the sage of Dwight comes forward and announces through the daily press that he has made a most remarkable discovery, that drunkenness is a disease, that there was also a remarkable remedy—all rights reserved—entirely different from any other in its action, a substance priceless; the world said all hail this wonderful doctor, and the name of this Barnum among the doctors was on every tongue. Men readily admit that they are sick, have the disease, and are willing to be treated and readily consent to try this subtle remedy and be cured. The establishments are so thoroughly advertised and the magical remedy so much talked of in consequence, and the field so thoroughly worked by cappers, that most every drinker has been solicited. Thousands of them go for treatment, it is a serious matter, they are profoundly impressed, they go from home, they spend time, money, make a business of it, they graduate, receive their diploma, become a member of the alumni, return to their homes a new personage, sober, with new resolves and with greater aspirations than ever before perhaps, to be a man. Prejudice aside, fellows, that has been done and results obtained which we as a profession could not have accomplished nor can we hope to. It was not within our province. It is a subject which should have been popularized. The result will be that when this fad has faded, that it will be a repetition as with other sure cures, that prevention is infinitely better than any cure. Men will be more guarded about becoming diseased? The public will also be older and we hope wiser, and a step will be taken in advance.

ON THE USE OF THIERSCH FLAPS WITH SPECIAL REFERENCE TO EYE AND EAR SURGERY.

By H. Gifford, Omaha.

Ladies and Gentlemen:

You are all doubtless aware that by a Thiersch flap is meant a piece of skin shaved off from the surface of the body, so thin as to contain little more than the epidermis and the tips of the papillae of the corium, in other words; it is cut as thin as
can be done and still draw blood. Such flaps, when applied to any raw aseptic surface which is tolerably smooth, heal with almost unfailing certainty, and give a smooth epidermal surface with very little tendency to contract. I have used them in nearly a hundred operations during the past two years, and can recall but a single failure to heal upon a fresh, raw surface.

The great advantages of these flaps over flaps without a pedicle, in which the whole thickness of the skin is taken, are the certainty with which they heal and the comparatively small amount of shrinkage which they undergo; to say nothing of the ease and rapidity with which they can be obtained.

Over the old process of skin grafting by using tiny specks of epithelium, they have the advantage that with them, one can heal up surfaces by a single operation and a week’s bandaging, which, by the old method, would take many times as long.

The only apparatus necessary for obtaining these flaps is a broad, sharp razor, but slightly concaved. They are best taken from the limbs, as here it is easier to obtain a tense and nearly flat surface by grasping the tissues on the opposite side to that from which the flaps are to be cut. The skin and razor are both, of course, to be sterilized and kept wet with some aseptic solution while the cutting is being done. The flaps slide up on the razor, if it is kept thoroughly wet, and with a little practice it is not difficult to cut them nearly as large as the blade of the razor; from this they should be slid off as quickly as possible on to the surface to be covered. Some authors advocate transferring them first to a warm, normal, saline solution; this, however, is not only unnecessary, but harmful, as the flaps begin to curl up as soon as they have left the razor unless applied to some solid surface. The surface to which they are to be applied needs only to have the bleeding from the larger vessels stopped; oozing, even when very free, is always checked at once by the flaps, which when applied to a bleeding surface, should be pressed down upon it with a wet swab, in order not to have too thick a layer of blood between. With regard to the dressing, the only essential points are that it shall not adhere to the flaps and thus cause them to peel off when it is removed, and that it shall be aseptic. These requirements are best met by dusting the surface with iodoform, aristol, or some similar powder, and then applying a layer of absorbent cotton or lintine wet in some aseptic liquid and smeared on the under side with a thick layer of sterilized vaseline, the whole being covered with a piece of gutta percha tissue, the edges of which are kept applied by cotton and a bandage. Such a dressing can be left for a week, and if the operation has been aseptic throughout, on its removal, the flap will be found to have healed perfectly.

Where, however, there is any doubt as to the asepticity of the operation, either from its proximity to cavities, which it is impossible to disinfect with certainty, or on account of a previous infection of the field of operation, it is best to change the dressing on the second day and every day thereafter, until healing is complete, since suppuration may commence at some point which, if discovered, may be checked, which, otherwise, might impair the entire result.

Although the flaps usually appear to be healed on the second day, firm union does not occur for several days later, and I think it safe to protect them either with a light dressing or with the application of some ointment for ten days or two weeks after the operation.

Among the numerous uses to which these flaps can be put, one of the most satisfactory is for the purpose of covering ulcers and granulated surfaces or all kinds, whether from ulcers, burns, or operations.
in which so much skin is removed that the edges of the wound cannot be brought into apposition. Where the granulating surface is old and suppurating, a preparatory course of treatment is desirable to insure the best results. All granulations should be snipped or scraped off, so as to give a firm, nearly even surface, and this should be kept wet with a solution of peroxide of hydrogen for half an hour twice a day for two days; it being bandaged between times with cotton wet in sublimate 1:5000, covered with oiled silk or gutta percha tissue.

In eye surgery, the most frequent application which I have made of the flaps is in the operation for entropium. Here, the lid can be split at its edge, the outer half turned back with sutures and into the gap thus formed a Thiersch flap can be slid, and as it almost invariably heals, the result in most cases is to hold the eyelashes permanently away from the eyeball. Or, instead of splitting the edge of the lid, the tarsus may be cut through on its under surface and after turning back the ciliary border with sutures, the flap may be introduced as before. When epithelium from the skin is thus transplanted into the conjunctival surface of the lid, it does not lose its characteristics and become transformed into mucuous membrane, but it retains its epidermal character, as I can testify from cases I have watched for over a year; and, on this account, it might be supposed that its friction on the cornea would be injurious. This, however, is not the case, for the outer layers of the epidermis become so macerated when kept constantly wet by the lacrimal secretion, that they irritate the cornea no more than the normal conjunctiva. In the large class of cases where some substitute for the normal conjunctiva is desired to replace defects caused by burns, malignant ulcers and the like, these flaps, though heretofore but little used, have, I am convinced, a wide range of application. I have used them with great satisfaction in one case where the conjunctival sac was so contracted by scars from a burn that an artificial eye could not be worn over the stump of the injured eye. The principal cicatrix was divided and into the large gap thus formed, a flap from the arm was introduced and held in place by a plug of iodoform gauze. It healed perfectly, and in the space thus gained allowed the patient to wear a very respectable looking artificial eye. In the operation of canthoplasty, where the conjunctiva is very much shrunken from long standing trachoma, it is sometimes difficult to get enough membrane to cover the raw surface made by enlarging the palpebral fissure. In such a case as this, where the lids were grown together to an extent which I have never seen equaled, I enlarged the fissure, as usual, but instead of attempting to use conjunctiva to cover the surface exposed by the cut, I used narrow Thiersch flaps with a very satisfactory result in both eyes. In eversion of the lids caused by scars adherent to orbital margin, the Thiersch flaps answer admirably where the lower lid is concerned. In eversion of the upper lid, I must confess that I have been considerably disappointed in the results which I have obtained in the only two cases in which I have tried the flaps. In these, the flaps healed perfectly on the raw surface left by loosening the lid and bringing it down into position; and the immediate results seemed excellent, but while the flaps themselves did not contract, they did not offer sufficient resistance to the abnormal tendency of the lid to turn out, the final result being an improvement but by no means a cure.

In ear surgery, the only case in which I have had a chance to use the flaps was in forming a new auditory canal for a patient with lupus, in whom the meatus was so closed by granulations and cicatricial tissue that
it was only by constantly keeping a small quill in position that a means of exit for the pus from the middle ear was maintained. The new tissue was removed with knife and sharp spoon, and the canal thus formed was plastered with flaps from the arm. The result was excellent, the flaps healed perfectly and for some weeks the patient had a well formed and useful meatus. Unfortunately, however, the mastoid was found, after renewed use of tuberculin, to be full of tuberculous granulations, and to remove these it was found necessary to cut away all of the posterior wall of the meatus, and subsequent relapses of the lupus necessitated the destruction of the rest of the plastic work.

Finally, a word as to the anesthetic to be used in operations where the pain to be prevented is chiefly that caused by cutting the flaps. Where the surface to be covered is large, it saves time to give general anesthetic; but where only a few flaps are necessary, the best plan is to inject a three per cent. solution of cocaine into (not under) the skin, at points about a quarter of an inch apart. This permits the cutting to be done without any pain whatever, as I can testify from repeated trials on my own person. Instead of using cocaine, one can freeze the skin slightly by an ether spray without impairing the vitality of the flaps, but the anesthesia so obtained is not as complete as that obtained by cocaine.

DISCUSSION.

Dr. Jonas: This subject of transplantation of Thiersch flaps in defects in the epidermis, or defects in the skin, is one of such great importance that I do not feel like letting it go by without discussion. I have not quite gotten to the point that Dr. Gifford has, of carrying my razor in my pocket all the time, but have a razor for the purpose that I have carried for a good long time. The results of the transplantation of Thiersch Flaps are satisfactory and successful, especially if details are carefully observed. After an experience with them one gets so much confidence in them that he will employ them constantly. I have several times, in covering surfaces that were six or eight inches in each direction, shaved off flaps that were from an inch to an inch and a half in length, and am confident that if I had drawn the margin of the blade back a little I could have obtained still larger flaps. I know of no procedure in which it is so necessary to carry out aseptic details as are so plainly shown in this particular operation. Simple as it is, yet it is one of those things the success of which depends upon little things, which all go to make up a great system of aseptic surgery.
PREPARATION OF ENUCLEATED EYES FOR MICROSCOPICAL EXAMINATIONS.

By D. C. Bryant, M. D., Omaha.

As this method of preserving enucleated eyes has been used for several years in England, but so far as I can learn is little known or used in this country, I have ventured to write a short description of the method itself and present a few specimens, prepared by this process, for your inspection.

This plan of preserving enucleated eyes for future inspection and reference was first suggested and used by Dr. Priestly Smith, of Birmingham, England. The plan recommends itself to the oculist for two reasons: First, it gives a beautiful picture of disease or injury of an eye, which is more accurate than the artist's pencil can give and which adds greatly to the history of the case kept in one's case-book. In the second place, if at any time, in any case where enucleation has been found necessary, either on account of injury or disease, and especially the former—legal-proceedings should be instituted—one would have evidence in the preserved eye which would be convincing, to the expert witness at least, and could hardly fail to have a good effect upon the dullest jury-man.

My colleague, Dr. H. L. Burrell, became interested in this work while spending the winter of '90 and '91 in the Royal Ophthalmic hospital, London, and to him is due the credit of preparing and mounting the specimens which you will have the opportunity of seeing to-day.

Only one-half of each eye need be used for this purpose, while the other can be saved for microscopical sections and thus one can preserve the history of each case in the most complete manner. The whole plan of preserving the eye from the enucleation to the mounting is simple though somewhat protracted and tedious.

At the Royal Ophthalmic, where much of this work is done, they have small glass jars made shallow and ground perfectly smooth on the bottom, and also have the top ground and fitted with a cover which can be cemented on with Canada balsam after the eye is in place, thus securing it from any external injury. In cases where foreign bodies are imbedded in the deep structures of the eye, or any case where it is desired to bring minute lesions into more perfect view, a plano-convex lens of proper strength can be cemented to the bottom of jar and a magnified image thus obtained.

The jars are made just deep enough to contain the half of one eye, and enough of the imbeding fluid, (so-called glycerine-jelly) to cover it entirely.

The whole treatment of the eye from time of enucleation until the final mounting and sealing, as well as the making of the preserving fluid, will be found in the following, copied from the rules used in the Moorsfield hospital:

After removing the eye place it in Muller's fluid and let remain three weeks, then freeze in an ordinary mixture of salt and ice. When sufficiently frozen cut in halves with a very thin knife in the direction desired. The half that is to be imbedded is next placed in a solution of chloral hydrate, (5 per cent. distilled water,) to re-
move the staining from Muller's fluid. This solution must be changed every alternate day until the specimen is no longer discolored. This takes usually three or four days. (Blood takes longer). Now place the specimen in a mixture of glycerine and water, one part glycerine and two parts water, for twenty-four hours, then in a mixture of one to one of the same ingredients for twenty-four hours more. The specimen should now be ready for mounting. It is taken from the glycerine mixture and placed in the jar with convex surface down and the imbedding fluid previously warmed in water bath, turned on it. The specimen is then turned over in the jelly so that the flat surface is down. Place over the jar, card-board with a pin projecting so as to touch specimen and keep it from rising while jelly is cooling. After jelly has cooled the cover can be cemented on with Canada balsam.

The following is the rule for making the glycerine-jelly for imbedding, viz:

- Best French Gelatine .................. i oz.
- Aquae ........................................ viii oz.
- Glycerine ..................................... viii oz.
- The whites and shells of two eggs.
- Acid, Carbolic ........................... ii drops

Cut up gelatine and soak in the water until it swells up then stir in the eggs, shells and carbolic acid. Boil thoroughly for twenty minutes. Filter through paper and then add the glycerine. The jelly is now ready for use and can be kept any length of time and used whenever needed by warming in water-bath.

Of the specimens which are shown today Nos. 1, 2 and 3 all belong to the sarcoma family and show the different varieties of that group of new growths in very nice shape. No. 1 is from an eye which was removed from a child three years of age. The case was not seen until the growth had involved the orbital tissue; had protruded through the ocular conjunctiva at the side of eyeball and had commenced to break down. Although the whole contents of orbital cavity, together with periosteum, were removed, the patient died some three months later from recurrence of the growth in cranial cavity.

No. 2 was removed from a young man who some two years previously had received an injury to his eye while at work on the Northern Pacific railroad in Montana. The injury consisted of a burn of cornea from a hot cinder which practically destroyed the cornea, leaving a very large leucoma which compassed nearly the entire corneal surface. The patient gave the history of having suffered intense pains at times ever since the injury, but of late pain had increased both in severity and frequency. Eye was removed on account of pain and without any suspicion of new growth at posterior part of eyeball. The enucleation was performed four years ago and patient is alive and well at present; showing no symptoms of return of growth.

No. 3 was removed from a young lady who had been suffering with eye trouble for some two years. In this case the diagnosis was made before the enucleation and the operation advised in order to save life. This eye was removed three years ago and patient to-day is perfectly well.

These three specimens show very nicely the different degrees of pigmentation found in sarcoma. The first shows no pigment whatever, the second a slight amount while the third is deeply pigmented, being the true melano-sarcoma.

No. 4 is an eye which was removed from a young lady who in early childhood injured her eye by running the point of scissors blade into it. After the acute inflammation following the injury had subsided, the patient suffered no pain from the eye until about two or three weeks before I saw the case, when she was suddenly attacked with severe pain which continued until she was compelled to seek relief in enucleation. In this specimen, as you will see, the whole
NEBRASKA STATE MEDICAL SOCIETY.

TWIN PREGNANCY.—ONE FOETUS IN UTERO AND THE OTHER EXTRA-UTERINE.

By E. W. Martin, M. D., Fremont, Neb.

Mrs. P——, aged 40 years, of Scotch descent, having borne three children and had one premature labor, the eldest child aged 16, and the youngest, 5 years. A foetus was prematurely delivered 3 years before the birth of the youngest child. She became pregnant again about the middle of Feb. 1890. The history of the case proved to be very peculiar: nothing remarkable or unusual having been observed in either of the former pregnancies. On April 30th I was called to see her, she having discharged her regular physician, by whom she had been attended for several weeks. When I first saw this woman, on superficial examination I thought it a case of septic peritonitis. The vital phenomena were suffering, general prostration, and an unlimited degree of pain manifest. I found her lying upon her back, unable to move or be touched, emaciated and suffering intense pain in the region of the ovaries, and particularly the right hip. Absolute constipation had existed for twelve days, accompanied with excessive vomiting. The tongue was coated with a heavy fur in the center but normal color on its borders. She was having considerable metorrhagia, which had begun a fortnight before. By vaginal and rectal examinations, I diagnosed a retroverted, impacted, gravid uterus. By the knee and chest position, after two day's effort, I was able, in a great measure, to replace the organ. Symptoms began to improve and vomiting ceased, and by a copious injection per rectum, the bowels moved, and with a little encouragement, they soon resumed some degree of regularity. Her appetite returned, and within ten days, the patient was up and walking about the house and yard. Immediately upon her effort to be upon her
feet, her right leg began to swell, and
assumed alarming proportions, the foot,
ankle and leg to the knee, presented
marked edema.

This state of facts continued until
July 18th, when I was suddenly called and
found her with all the symptoms of labor.
It should have been stated that at intervals
of every five or six hours, slight hemor-
rhages from the uterus had continued from
the time I first saw her until the present.
The labor symptoms now continued until
the 23d, when a five month’s fetus was dis-
charged. The placenta presented the
appearance of having been partially de-
tached, which doubtless accounts for the
continued hemorrhage. The placenta came
away with the same pain that expelled the
fetus, when all pains ceased, followed by
little hemorrhage. For two days I irri-
gated the uterus with antiseptic lotions.

My attention was called by the patient to
the fact that she was having quickening, as
though another child existed in the uterus.
On placing my hand upon the abdomen, I
was convinced beyond a doubt that her
conjectures were not entirely groundless,
as the movement of the child could be
distinctly felt at this juncture. However,
the patient got up within five days, the
swelling disappeared from the limbs,
gained in flesh and strength until the 17th
of August, when pain began in the region
of the right ovary, considerable pain in
right hip, back and right limb. Gave
morphia to relieve pain. By digital exami-
nation, or by any other process, I was
unable to say whether I had remaining,
ectopic pregnancy or not. The os was
lax and flabby, and although I could pass
my finger well up through it, I could find
nothing within reach, and doubting the
propriety of exploring with the sound, I
immediately wrote a history of the case
and sent it to Dr. Thad. A. Reamy, of Cin-
cinnati, Ohio, asking him what he thought
I had, whether double pregnancy with more

than one placenta, a bifid uterus or extra
uterine pregnancy. If the latter, he thought
“at this stage it must be of the so-called
abdominal variety. He,” like Lawson
Tate, “believed that primary abdominal
pregnancy rarely, if ever, occurred. Such
cases usually being due to the early rupture
of the Fallopian tube, and escape of fetus
into the abdominal cavity.” He advised
me not to explore the uterine cavity, but
to watch the case, as he believed it to be one
simply of plural uterine pregnancy. Upon
this theory I relied for a short time only,
when I made my diagnosis, ectopic
pregnancy—in the meantime the ordinary
symptoms had been going on, unmistak-
able quickening, placental souffle, fetal
heart sounds, and progressive increase in
size. When I made my diagnosis, then
trouble came. Consultation was demanded
and the ordinary routine was indulged in.
Dr. L. B. Smith of my city was called,
three talented M. Ds. from Lincoln, Neb.,
—Drs. Peebles, Mitchell, and Giffin. Suf-
fice to say that the case was so difficult of
diagnosis that we were divided, some hold-
ing to the theory of bifid uterus, and others
to the ectopic theory. Dr. Peeble was
not called until September 25; on Septem-
ber 26, (the next day) rupture of the sack
occurred, with excruciating pain, followed
by collapse. September 27th, at 8:30 p.m.,
death occurred. On Sunday, September
28th, I called all who were in consultation,
and a post mortem was held, which de-
veloped the following:

Extra uterine pregnancy of seven and
one-half months gestation remaining after
the expulsion of more than two months
previous, from the womb a fetus of an
uterine pregnancy. The development of
the two fetuses would indicate that concep-
tion had taken place at the same time, and
from all circumstances, this theory is the
the most plausible. Abdominal section
displayed a ruptured chorion, and escape
of fetus and liquor amnii into the ab-
dominal cavity and viscera. The foetus was easily removed from the intestines. The chorion was found to have many adhesions to both the pariétés and viscera. Evidence of an old peritoni­tis, having existed in the region of the right ovary, was patent. The adhesion developed the fact of the impossibility of a successful operation of laparotomy being performed at any time after the expulsion of the first foetus; at no time previous could a correct diagnosis have been made. With a child in the uterus, no man would have risked his reputation to say there was another also in the abdominal cavity. Another singular incident now presented itself. The umbilical cord was bifurcated, and led to two placentas, the first of small development, weighing about three or four onnces, had attached itself to the folds of perito­'neum about the left broad ligament, the other weighing two or three pounds, formed its attachment in Douglas' culdesac. It would seem at the time of conception, that at least one ovum made its transit from the ovary to the uterus, was arrested in that portion of the Fallopian tube, passing through the walls of the uterus: there it became fructified and the development began. This would be called interstitial pregnancy. The post mortem revealed this to be true: as the muscular fibers of the uterus became stretched and distended, it formed the outer covering of the ovum and accounts for its going to the long period of seven and one-half months before rupture, as it is very susceptible of distention; at least it proved so in this case. A thin layer of uterine muscular fiber was found surrounding nearly the whole of the sack. Notwith­standing the fact that it is asserted by some of the most eminent authorities that no placenta having primarily attached itself to the tube or peritoneum, can attach itself to any other structure, how can we account for the firm attachment of this one in Douglas' culdesac? Was that the primary location? If not, how did it get there?

The divisions and subdivisions of ectopic pregnancy, as found in most standard text­books, tends to confuse the medical mind, for such classifications are not sustained by facts correctly observed. It is not my purpose in this paper, to speculate or philosophize, but I have attempted to give you all the facts as far as I am able, connected with this most interesting case. So far as I have looked up medical literature, there has been no case reported like it. In conclusion, it is but right to say, that this unfortunate ending closed the life of one of the most estimiable and cultivated ladies in the west.

DISCUSSION.

Dr. Leisenring: This is a paper in which I am very much interested. It is rather a peculiar case. As the Doctor has said, I do not recollect a single similar case recorded in the books. Now, extra uterine pregnancy and superfoetation we frequently have, but to have one foetus within the body of the uterus and the other one in the Fallopian tube; or may be interstitial pregnancy, I presume the post mortem revealed. It is certainly a very peculiar and interesting case, and I hope it will be discussed.

Dr. Peebles: I would say that I saw the case a day or so before she died. There had been a great deal of question in regard to the diagnosis, and it was a very difficult case to decide; that is, as to the diagnosis. The uterus and cervix were dilated and would admit the finger into the uterine cavity. It was evident to us that the cavity was empty. There was a foetus from the history and from the symptoms. Just what part and what portions of the uterus was involved was a question. There had been an opinion given in the case that it was one of double uterus, and we
decided to operate the next day if the consent of the friends could be obtained. Dr. Martin was very anxious that an operation be attempted, and when we got into the city at three o'clock in the afternoon—rupture had taken place at 9 o'clock in the morning—she was moribund.

Dr. Hungate: I would like to make a suggestion in this connection, and it is this: Had this case been operated upon at the time the rupture occurred, or immediately before, I believe her life could have been saved; and the suggestion I have to make in regard to the operation would be to have done a laparotomy and remove the child, tie the cord close down to the placenta, no matter where its attachment was, and close the abdominal incision. Had he undertaken to remove the placenta at the time the child was expelled, there would have been death without doubt. I had this feature suggested to me in St. Louis. I had a case of ectopic pregnancy in a young unmarried girl. She had been pregnant 14 months, and there was a child in the abdominal cavity that weighed 16 pounds. It had been dead probably two months. Dr. Baxter, of St. Louis, operated for removal of the child. We placed the patient upon the table, opened the abdominal cavity and removed that enormous child from among the abdominal viscera. The Doctor was possessed of the idea that it was his business, and part of the operation to proceed to remove the entire product of conception; and while doing so the girl almost became moribund; but I was diligent with the hypodermic syringe and brandy and we revived her. We had the disappointment of going down town and of having a messenger come and say she was dead. I believe she would have been alive to-day if we had tied down close to the placenta and closed the incision. Nature will make provision for the after-birth which she has placed there.

Dr. Martin: I simply wish to say, as to the advisability of operating, I suppose the Doctor meant after the expulsion of the first foetus.

Dr. Hungate: Any time after the rupture.

Dr. Martin: There was no trouble of that kind suspected, in fact, until after the expulsion of the first foetus. When we had a consultation an opinion was given that we had a bifid uterus; that there was no doubt about there being a bifid uterus. But I differed from that opinion and held to my own theory, that of ectopic pregnancy, and this difference continued until the rupture; and to have operated at that time and under those circumstances, it seems to me we would not have been justified in doing so. Another thing: the post mortem developed the fact that there were so many adhesions that I don't believe she could have been saved had she been operated upon at any time, unless it had been one or two months before.

Dr. J. E. Summers, Jr.: I wish to ask the Doctor where he found so many adhesions?

Dr. Martin: To the bowels and parietes. Then we had an umbilical cord with two placentas. The Doctor says those should have been left alone, but I don't see how we could unload the sack.

Dr. Peebles: I would say that these conclusions were very naturally that an operation should be made, and I believe in all cases of extra uterine pregnancy, when the diagnosis is made, that an operation should be undertaken. But, as the Doctor has suggested, I think no operation could have been successful in this case, for the reason that the foetus was posterior to the uterus, and portions of the sack extended out to the abdominal walls and were absolutely and firmly attached, and the rupture of the sack took place posterior to that. It would have required quite an extensive dissection, even at the post-mortem, to ascertain and dis-
cover the location of the rupture. And there was no way to empty the sack, of the foetus, in my judgment, without cutting through the body of the uterus.

Dr. J. H. Peabody: It seems to me that ninety-nine out of a hundred of us would have done just the same as the Doctors did. I just want to ask Dr. Martin, was that collapse immediate after the rupture?

Dr. Martin: Yes, sir.

Dr. Peabody: That would be the time to open the abdomen, immediately.

Dr. Martin: I will state that immediately on the rupture of the sack, I sent for Dr. Parkhurst. He came over at once, but she was in a state of collapse.

Dr. Peebles: Just one word in explanation. This rupture took place, I believe, at nine o'clock in the morning, and I wasn't there until three o'clock in the afternoon. The patient was in a state of perfect collapse, and it would have been useless then to operate. She died that evening.

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REPORT OF A CASE OF ACUTE LABIO-GLOSso LARYNGEAL PARALYSIS WITH REMARKS.

By H. B. Lowry, M. A., M. D., Lincoln.

Mr. President and Fellows:—The chief interest in the paper I present to you is in the recognition of a class of cases sufficiently scarce to make it improbable that the general practitioner will meet with many examples. Indeed the conditions I have to present are so infrequent as to make them rare. Although I have called the case, to which I wish to direct your attention one of acute labio-glosso laryngeal paralysis, following the example of Lockhart Clark, Gowers and others, yet I do so knowing that the so-called acute bulbar paralysis only resembles essential labio-glosso laryngeal paralysis in its symptomatology, being wholly unlike it in pathology as well as in clinical history. Manifestly a disease should not be named from its most striking symptoms, when those symptoms may be produced by wholly different pathological conditions accompanied by the most dissimilar clinical history. I only raise the question of nomenclature here and will discuss it more fully farther on.

On March 4, 1892, at 6 o'clock in the morning, I was called to the bedside of Mrs. P—, aged 63 years. The patient was tall and spare, being rather feeble, and carrying her age but indifferently. Four or five hours prior to my visit she somewhat suddenly became unable to speak, having complained an hour or two earlier in the night of some throat difficulty and of fever. When I saw her, although much improved, the power of pronouncing aspirants and labials was gone and words containing such letters were indistinctly pronounced. She could swallow only with the greatest difficulty, not being able to prevent the liquid from passing into the trachea.

The tongue was normal in size and appearance, but could not be protruded beyond the teeth, indeed all power of motion in that organ was lost. The lips were also paralyzed and lay in such a limp condition, falling in as the patient lie prone, presenting such an unnatural appearance as to be remarked by the friends. The patient's position on her back prevented the saliva from flowing out of the mouth as well also as the peculiar dropping of the lower lip observed in the chronic form of bulbar paralysis.

The temperature was 102 degrees, the pulse 120 per minute. The breathing was shallow and frequent, being 45 per minute and quite difficult, apparently by reason of the irregular movements of the larynx, suggesting swelling of the glottis.

A careful examination of the heart gave only negative results. The pupils were
normal and no spasms or twitching of the muscles were observed at any time. Six hours later the conditions were much improved, and twelve hours later still more decidedly so. On the morning of the 5th the pulse and temperature were normal, the respirations 24 and the patient in every way much improved. She could articulate with some distinctness, the deficiency still being with the tongue and lip sounds. Liquids could be swallowed with some degree of comfort, but the tongue could not be protruded beyond the teeth. The lips could not be moved at all.

This condition of things remained much the same until about midnight of the 5th when the patient was taken suddenly worse.

On the morning of the sixth the pulse was 140, intermitting one or two beats at a time, the intermission not occurring regularly. The temperature was 103 degrees and the respiration 70 per minute and quite shallow. She could only pronounce a few words so as to be understood, the aspirants and labials being again entirely gone. The voice was markedly nasal. The power of deglutition was almost wholly wanting so that an attempt to give medicine or even water produced strangling and an effort at coughing which, however, was extremely feeble. The patient had sinking or fainting spells which were very alarming to the friends.

At noon on the sixth Dr. J. O. Carter was called in consultation. At this time the paralysis of the lips, tongue and throat was still more profound and the patient lie in a semi-comatose condition, it being evident that dissolution was at hand. Death occurred at six o'clock of the same day.

The intellect and sensation were but slightly if at all affected till very late, the paralysis being motor and restricted to the tongue, lips, and throat, and was bilateral from the beginning.

No autopsy was had.

REMARKS.

The nature and location of the lesion in the case under consideration is of the greatest interest, and in this, as in all other cases, should occupy the attention of the discriminating practitioner. The difficulty he has to encounter here, as in many other instances, only adds to this interest. No autopsy being had the exact lesion must remain conjectural, and yet by careful study it may be more or less nearly approximated.

The suddenness of the onset, as shown by the clinical history, at once excludes the labio-glosso laryngeal paralysis of Duchenne, in which the symptoms always develop slowly, appearing one at a time, usually manifesting themselves first in the tongue, then the lips are attacked and finally the throat, the symptoms manifesting themselves in the order of the sclerotic invasion of the ganglion cells of the anterior horns of the medulla oblongata.

Cases of bulbar paralysis have been reported caused from softening of the higher cerebral centers—as the lower third of the ascending frontal convolution affecting the fibers passing along the internal capsule to the bulb. But lesions of this region, even when occurring on both sides, almost always if not invariably implicate other nerves than the hypoglossal. Again it is most likely that but one of the frontal convolutions would suffer. In such a case we would expect unilateral paralysis. Lesions of the central ganglia of the lenticular nucleus have been known to cause bulbar paralysis, but the remarks just made concerning the involvement of the higher centers hold good here also, viz: that other muscles than the tongue and throat would almost surely be involved.
I think I am entirely safe in excluding from this case any lesions of the higher cerebral centers and equally safe in assuming the trouble to have been in the medulla oblongata.

As to differentiating the lesions of this organ the clinical history at once excludes Duchenne's disease—which comes on slowly requiring many weeks or even months for its development. The sclerotic process which involves the ganglion cells of the hypoglossal, spinal accessory and vagus is a slow one here as well as in the cord, and has the same anatomical characteristics, being situated in the anterior horns of the gray matter. The cells atrophy, undergo yellow pigmentary degeneration of the nuclei and finally disappear.

Tumors either situated in the medulla oblongata itself or impinging upon it from without, would present features of chronicity. Slowly developed symptoms as muscular spasms or twitchings, anaesthesia and disorders of the special senses would have shown themselves. By the absence of these and the suddenness with which the symptoms in this case were developed, tumors, I think, may with great certainty be eliminated from our inquiry. There remains to be considered in the differential study of this case acute inflammation of the medulla oblongata or bulbar myelitis, as well as vascular lesions.

Acute inflammation of the medulla oblongata, involving the anterior horns of the gray matter, sometimes simulates more or less closely bulbar paralysis, in this case suggested by the fact that there existed at the onset some throat trouble and that there was from the first and even prior to the attack some fever. But these symptoms, suggestive as they may be, were evidently coincidents, as the theory of acute inflammation would not be consistent with the suddenness of the onset or with such marked improvement; neither would it be easy to reconcile it with such a rapidly fatal course nor with a paralysis so circumscribed.

Of the vascular lesions we might have thrombosis or embolism of the anterior spinal artery, thus cutting off the blood supply to the nerve cells from which the hypoglossal, spinal accessory and vagus are derived, resulting in softening of the parts. Or there might have been a hemorrhage into that portion of the bulb or into the fourth ventricle, as the nerves implicated have their deep origin in that region of the medulla oblongata lying immediately under the lower part of the floor of the fourth ventricle or the calamus scriptorius. A hemorrhage impinging on this part of the organ might, according to some authorities—according to others not—account for all the phenomena presented in this case.

Of the effects of a hemorrhage into the medulla oblongata or upon the floor of the ventricle our literature is very scant. The case of of J. Hulings Jackson, Morrel McKensie and Lockhart Clarke is well known. Jackson thinks that the symptoms of labio-glosso laryngeal paralysis, when suddenly developed, leads to a necessary inference that there is either a hemorrhage into the bulb or softening from clot.

Granting the lesion in our case to be vascular, to distinguish between a clot and a hemorrhage is by no means easy. The rise of temperature is without significance so far as differentiating between arterial obstruction and hemorrhage. The heart gave but negative evidence. The pupils, although normal, transmitted no ray of light to this obscure spot.

Neither is the apoplectiform seizure of any significance in differentiating between a plug and a hemorrhage, at least so far as the earlier manifestations are concerned. But when we take into account the improvement that was noted and the apoplectiform condition which ushered in the
fatal symptoms, some light may be thrown upon our study.

The anterior spinal artery being once occluded, improvement might be brought about by collateral circulation being established in which case, however, acute softening would not be so likely to take place, and yet this is the hypothesis upon which the exacerbation—or perhaps more properly, the second onset—of the trouble, granting it to have been plugging, is to be explained, whereas assuming a hemorrhage to have occurred, improvement might take place followed either by acute softening or by a second hemorrhage, the latter being the more rational explanation of the suddenness of the patient's becoming worse.

But this does not exhaust the interest in our study. The rapid and irregular heart’s action, as well as the hurried and shallow breathing with impaired respiratory force, as shown by the extreme feebleness of cough, indicates in the latter stages, at least, the vagus to have been involved, the paralysis in this instance probably affecting, not only the inhibitory fibers, but possibly also the motor fibers of the bronchae. That the pneumogastric was still farther implicated, we have in evidence the fainting fits which is to be accounted for, not only on the ground of the paralysis of the cardiac inhibitory fibers as shown by the rapid pulse, but on the hypothesis of an invasion of the cardiac centers themselves. In these cases the condition is so grave that death is sometimes due to syncope.

The great difficulty in breathing, noticed on my first visit, is to be accounted for by the paralysis of the larynx involving the epiglottis, just as sometimes occurs in essential bulbar paralysis. Blumenthal records a case where the dyspnea became so alarming that tracheotomy was performed with great relief to the patient.

The markedly nasal voice indicated that the injury to the spinal accessory was extending, involving the vail, the imperfect closure of the naso-pharyngeal cavity being due to paralysis of the soft palate. That such profound paralysis of motion should exist without sensation being affected is apparent when we recall the fact that the deep origin of the gustatory nerve is not in juxtaposition with that of the hypoglossal. In this connection it is well to remember that no other nerves of the body are so interdependent as are the hypoglossal and those of the lower part of the face, especially is this true of the motor nerves of the obicularis oris and those of the anterior part of the tongue. Neither can be put in motion without the other. Again the larynx is supplied with motor impulses by the spinal accessory, which is itself wholly a motor nerve.

Names are often not only without significance but are sometimes actually misleading. In the class of cases under review, in which the symptoms are mainly the paralysis of the lips, tongue and throat, while the name commonly applied indifferently to all—may not be without significance, yet it is often quite misleading. In calling my case one of acute labio-glosso laryngeal paralysis, I have but followed the example of Lyden, Jeffroy, Lockhart Clark, Gowers and others, who knew well the pathological and clinical history to be greatly different from those of essential bulbar paralysis. In the latter disease the morbid changes are always constant in kind if not in extent, being a sclerosis of the anterior horns of the medulla oblongata. This morbid process may extend to the corresponding parts of the cord, resulting in progressive muscular atrophy, or it may be secondary to anterior sclerosis of the spinal cord. They are always slow in their development and always progressive.

In the vascular forms the only constant condition is that the trouble is always eccentric.

It has occurred to me that in diseases of
the medulla oblongato, although the symp­tomatology might be similar or even identical, yet with a different pathology, a nomenclature giving some idea of the morbid changes might be adopted. For instance primary or essential labio-glosso laryngeal paralysis might, with great propriety, be called anterior bulbar sclerosis. Vascular lesions either hemorrhagic or obstructive could be designated as apop­lectiform bulbar paralysis. Acute inflammations or bulbar myelitis alone should be called acute bulbar paralysis. Lesions of the higher cerebral centers with bulbar symptoms are generally, and very properly, called pseudo-bulbar paralysis.

DISCUSSION.

Dr. Knapp: Mr. President, I do not wish to discuss the paper; in fact, there is very little room for discussion after Dr. Lowry gets through with the analysis of a case of that character. I simply wish to compliment the doctor on the thoroughness of his analysis of the symptoms as point­ing to the seat of the lesion; and the only regret that we can have in the case is that he was not permitted an autopsy to verify the opinion that he at that time formed, and which he has so clearly elucidated to-day.

So far as the name is concerned, it matters but little. Of course, we all understand that it could not have been a case of bulbar paralysis as ordinarily exem­plified in our text-books. The acute­ness of the attack is suggestive of the name. “Acute bulbar paralysis” and seems to me to be sufficient to designate the conditions presumed by “Acute Hemor­rhagic Bulbar Paralysis.”
"DOES YOUR PATIENT NEED GLASSES?"

By J. E. Garver, Leeds, Iowa.

The purpose of this paper is to direct the attention of the general practitioner toward determining whether a given patient does or does not require glasses; particularly for the relief of symptoms that may not be directly referred to the eye.

Permit me at the outset, to say, that I do not want to be understood as advocating the fact, that every case of refractive error should be sent to an oculist for the adjustment of glasses; for it is a well recognized fact that many of our farmers and some of our trades-people could go through life with an uncorrected refractive error, while the neurotic and sensitive girl or boy could not endure the defect for one day.

There are hundreds of cases that turn up in every physician's office of persistent headache, vertigo, anorexia, mal-assimilation, etc., whose causation is an irritational inco-ordination from abnormal exertion of the intra-ocular or extra-ocular muscles.

Thousands all about us are suffering multiform and irremediable injury, directly or indirectly, because of unsuspected eye-strain, and he who soonest recognizes the fact, will do himself the more honor and the world the more good.

Doctor Geo. M. Gould says—"Physicians may vainly continue for years to treat their patients with every article in the Materia Medica, in the hope of relieving a headache that springs from ametropia, a chorea due to eye-strain, an anaemia or a dyspepsia that arises from mal-assimilation and an anorexia, whose proper names would be reflex ocular neuroses." There is no other organ in the body where muscular exertion produces such mental, cerebral and distant reflexes as are the rule in eye-strain.

Constant over-use of any muscle will eventually tire it out, and the ciliary muscle is no exception to the rule.

Let me give you a sample of a case that illustrates the points that I wish to present for your consideration.

A young lady, age 16 years, comes with her mother to your office for advice and treatment. The girl is an anasmic, neurotic, nimble-witted creature and perhaps stands at the head of her class in school. The mother says: "doctor, she has never had her menses right and I fear she will go into consumption if something is not done."

You of course, calm all her fears on that point and inquire whether she has ever taken any medicine for her condition. She will probably say, "yes, doctor, she has taken iron and lots of other drugs and they haven't done her one bit of good." Then you ask, "Has the young lady been subject to headache?" "Why at times she has such a sick headache that I have to keep her out of school." After asking the young lady if her headache starts in the forehead or temples, and receiving an affirmative answer, you ask her; your headache is worse, is it not, when you study hard? "Yes."

Does the page you are reading seem to blur and the type run together? "Oh, yes, I have to look away from my book for a moment, and then I can see the letters
all right for a short time, but after a time I get so sleepy that I take a nap in school."

These symptoms, gentlemen, you will always find in eye-strain, because the ciliary muscle becoming tired, temporarily relaxes, causing the focus of the image to be placed behind the retina producing a blurred object.

Then by increasing over exertion of this muscle in persistent near work, nature's sweet restorer comes to its relief and gives a few moments rest.

In examination of this young lady's eyes you will probably notice injection of the conjunctiva and perhaps she will have noticed a spasmodic blinking or "tic" of the lids.

Her appetite will be fickle—one day good and the next anorexia.

The headache will usually be found to precede and be continuous with the gastric trouble.

With failing nutrition there is general diminution of vitality, a growing languor and malaise alternating with periods of excessive hyperesthesia of the nervous system.

The irritation continuing, the anorexia proceeds to fits of nausea and even vomiting, ending finally in one of the many forms of so-called chronic dyspepsia or sick headache.

The physician has been appealed to and long courses of dieting, artificial foods, bitters, mineral acids or tonics have been tried in vain: doubtless every physician vividly remembers a number of such puzzling cases.

Now what are the indications for us in such a case? First, test her vision by means of two different cards of Snellens' test types. Have one card hung up in your office in a good light, twenty feet from your patient. Then with every patient complaining of headache, neuralgia or dyspepsia with nervous symptoms, test accurately, each eye's separate ability to read.

Keep a record of the lines read with each eye. The patient will, perhaps, read No. 20 of Snellens' type at twenty feet distance or perhaps will only read No. 40 at same distance.

Now paralyze the accommodation by instilling into each eye a solution of atropine (4 gr. to oz.) From three to five instillations within half an hour will be sufficient. Tell the patient to return to your office within twenty-four hours.

When she returns the next day, if her headache is better or has disappeared, you may be sure you have an eye-strain reflex; for this is the best method of differential diagnosis between headache due to errors of refraction from other causes.

Now your patient has returned with thoroughly functionless accommodation, and you re-test her acuteness for distant vision by using a different test card because she might remember some of the letters on the other card.

If her vision was $\frac{2}{5}$ or in other words if she saw No. 20 Snellens' type at twenty foot distance before using the mydriatic and now with functionless accommodation she reads the same on the other card, you have a rare case of emmetropia or normal vision; but if she can only read the larger letters beyond No. 20 on the card, you have a case of hyperopia or astigmatism or both. If originally subnormal and after the mydriatic it remains the same, you have simple myopia.

Now if your patient presents any of these anomalies of refraction, bundle her off to an oculist at once, for, as a writer has said, "The iron on your patient's nose in the form of spectacle frames, will do more for the red blood corpuscles than any amount of it in pills." In the young, the evil consequences of eye-strains are exceeding prone to become aggravated about the time of puberty and there can be little
doubt that delayed menstruation in the female may be directly or indirectly due to this cause.

In some cases there may be styes, blepharitis or conjunctivitis; but usually the eye or its appendages do not show the effect of its own irritational work and the subject usually does not feel or exhibit any signs that the eye is the source of all these manifold and seemingly distant results.

The most constant symptom that we will meet with in eye-strain is headache. Dr. Seguin says: The pathology of headache to which we now incline, allowing due share to various exciting causes and to lithæmia, is that of eye-strain, and the principal evidences in favor of this theory are:

1st. The fact that almost all subjects of headache have ocular defects, usually hyperopia or hyperopic astigmatism.

2d. The hereditary transmission is frequent in these ocular defects, as well as in headache.

3d. That headache is apt to make its appearance at the age when children begin to use their eyes steadily for near work (study).

4th. That at the period of life when accommodation power ceases, headache also disappears.

5th. That we now know from experience that the full correction (when possible) of ocular defects benefit headache more than all the other therapeutic measures."

In the great majority of subjects that have headache, there will be found hyperopia, astigmatism or the two combined; besides in some cases faulty muscular equilibrium.

We are so deeply impressed with the importance of ocular strain as a prime factor in the genesis of headache that we would strongly urge that in every case, a thorough examination should be made of the refractive and muscular power of the eyes of patients suffering from headache, and that, too, at the earliest possible age.

There is no question but that the many cases of so-called neurasthenia or nervous exhaustion supposed to be due to over-study in children and youths might be prevented.

Many persons have been compelled to shorten their education and be restricted in many lines of work requiring near adjustment of vision, which are all more or less remedied by medical art.

My observation has led me to believe that the large majority of our rural practitioners regard the refractive errors of the eye as something beyond their line of work; but in the case of a person presenting some of the symptoms mentioned in this paper, no diagnosis is complete without an examination such as I have tried to explain; and in the large proportion of such cases, no treatment will avail much until the subject has been fitted with properly adjusted glasses.

You will excuse this short paper: I have tried to present a few of the symptoms that we meet with in eye-strain and their remedy, and if I have succeeded in pointing out to you the road to relief to any sufferer who may be in your charge and for whom medicine offers little hope of relief, I shall be amply repaid for my trouble.

DISCUSSION.

Dr. Knapp. I do not know anything about the eyes, and am, therefore, probably not capable of discussing this paper. I do know, however, something of the effects of eye-strain on the nervous system, and the paper just read is very important, not only as connected with the subject directly, but in consequence of the effects which will follow, or are very apt to follow in this condition by neglect. We have very serious nervous troubles which are directly traceable to eye strain; and this paper, in connection with the one which
was read yesterday upon the subject of "Reflex Pain," are to my mind two of the most important papers that have been read before the Society.

When we, as physicians, are able to properly interpret the language of disease, then we are attaining the mark at which we aim; and it certainly seems to me that these two papers are in the line of progress in the right direction of giving the proper and correct interpretation of the language of disease. I wish to compliment the author of the paper upon its practical value.

Dr. Bullard: I am really glad that Dr. Garver has prepared this paper for this Society. It was my intention to prepare one very similar during the fore part of the year, but as I was on the committee on Materia Medica and Therapeutics I did not do so.

This is a subject that needs investigation by practitioners generally, and an analogous case comes to my mind illustrating what has been pointed out in this paper so thoroughly that I will just relate it. From the First National Bank, which is under my office, the book-keeper came to me on an average, I think, of two days in a week during the year for headache medicine. After I had given him purgatives, dieted him, treated his stomach and liver I examined his eyes and found that he had two dioptres of hypermetropia and one and a half of hypermetropic astigmatism. Since that time I just prescribed twice for his headache and that was the day after he got his glasses.

Dr. Denise: I did not have the pleasure of hearing the whole paper, but I judge from what I heard of it and from the title, of its probable quality. I think it is a very important matter, and particularly in bringing it before the general practitioner. I know the specialists have been accused of being insane and cranky upon matters of this kind; reflex symptoms following eye troubles, and pet theories of the kind, but I think, if you, yourself, would consider the matter of this paper, in the light which it has been presented to you, you will find that their sanity is of the same character that is common to all people who have a reasonable amount of common sense. And, therefore, I think that it would be decidedly of advantage to every medical practitioner; the older members of the profession, especially, to inform themselves as much as possible in regard to this branch—the examination of the eyes, which is the key to the whole business. I have no fears for the younger members of the profession. Most of our medical colleges have now a chair of Ophthalmology with didactic and clinical lectures. Every young graduate is supposed to go out with sufficient knowledge to, at least, diagnose many cases of eye troubles. But to those who graduated some years ago, even in later years, the advantages were not the same, and they have to acquire the knowledge by practice and experience in their own offices. It is a very easy matter, and costs very little—in fact, you can get trial cards for nothing by sending to the gentlemen who supply such things, and who are very glad to get returns from you in the way of orders. Every office, as the doctor has said, should have some of these trial cards. It is not necessary that you should go into the actual practice of ophthalmology; it is not necessary to go further than to find out that there is something wrong with the eye. There is no doubt that many and many a patient has been relieved of eye trouble as I have in my own experience every day almost, (or, at least, as often as we have, according to the kind of practice we have, anything of this kind coming to us), seen by the use of proper glasses. It will certainly be of great benefit to the community in general and a very good fee and reputation comes to the doctor who finds out the difficulty.
Dr. Garver: I would just say that the object of the paper was to direct general practitioners toward securing a more accurate and full diagnosis of the indirect effect of eye-strain.

There was another point in connection with it which of personal experience I can vouch for, and that is this: I find with a great many practitioners in my experience who have sent patients complaining of some of the symptoms which are mentioned in the paper, to oculists for treatment, that they expect the patients to come home with these symptoms banished as the mist by the morning sun; but it is a fact that refractive errors being properly corrected by glasses, or as near as possibly can be, it takes a long time in a great many cases for nature to recover sufficiently to adapt herself to the new conditions and surroundings that will be to advantage and relief.

MATERIA MEDICA AND THERAPEUTICS.—REPORT ON PROGRESS.

By J. W. Bullard, M. D., Pawnee City.

The fallibility of man, coupled with the multitudinous new remedies, and new combinations of old remedies, that have been crowded upon the notice of the profession by the ever and over zealous manufacturers, together with the present tendency to grasp at the new which is lauded so highly in pamphlet, letter and in the advertising pages of our medical journals, make it a very difficult task to compile a report of the real progress made in Materia Medica and Therapeutics. Whether this is responsible for the few reports on this subject during the past or not, I am unable to say; but it is a noteworthy fact that, in the past six years the proceedings contain but two reports: that of Dr. James Carter of Omaha, in 1886, and the one last year by Dr. Harrington of Bertrand.

My report will necessarily be very fragmentary and incomplete, for the reason that I failed to make any notes during the year, depending wholly on getting up the report from a resume of the literature on the subject found in the journals for the year; but inadvertently the journals from which I expected to glean most were sent to the binder's before the report was begun: hence only the periodicals received since January 1 were available.

A number of antipyretics have been added to our materia medica, of which the following is a partial list: Antifebrin, antipyrin, antisepsin, antithermin, benzosol, bromamide, chinolin, euphorin, guaiacol, hydragetin, iodopyrin, methacetin, paracresotic acid, phenocol and salipyrin. The two first of these, antifebrin or acetanilid and antipyrin, are most widely and favorably known. With these the profession has become quite familiar, and understanding more fully their physiological action than formerly, they now occupy a legitimate place as antipyretics. Some of the others are deserving of more than a passing notice, on account of other remedial properties which they possess.

Benosol, which is prepared from guaiacol, is an agreeable and harmless substitute, administered internally, for creosote, in the treatment of tuberculous affections. It occurs as a white crystalline powder, tasteless, with a faint odor of bitter almonds, not soluble in water, but soluble in ether and chloroform. It is decomposed in the digestive tract, into guaiacol and benzoic acid; within half an hour the former is eliminated in the urine and saliva. It promotes nutrition and thereby increases the patient's resistance to the disease. It should be exhibited in powdered form in doses of 4 to 10 grains.

Euphorin, one of the aniline preparations, is said to be antipyretic, analgesic and antiseptic. Occurs in small white needles, with slightly acrid taste. Soluble in all
proportions of alcohol, but only sparingly so in water. Its antithermic action is due to dilatation of the peripheral vessels, with elevation of peripheral temperature, at the same time causing diminution of the central temperature. Its action, though attended with profuse perspiration, is said to be absolutely safe. It has been successfully used as an anti-rheumatic, in various forms of neuralgia, and in pulmonary tuberculosis. Its virtues as a remedy in dermatological practice, have been highly extolled by G. Peroni. He uses it in alcoholic solutions, 10 to 50 to 100, and in the form of a pomade with lanolin. Dose from 5 to 30 grains daily in medicated cachets or in mucilaginous potions.

**Guaiacol**, a methyl ether, obtained from the destructive distillation of beech tar. Taste and odor resembling creosote, but more agreeable. Soluble in alcohol, ether and oils, but only slightly so in water. It has been much used as a substitute for creosote in the treatment of pulmonary tuberculosis, but is much less agreeable as an internal remedy than its derivative, benzosol. Its employment as an inhalant in weak aqueous solutions (5:3,000 to 5,000) has been attended with very good results. The inhalations should be used with care, and all over-exertion in their employment avoided. Lupus and tuberculous joint diseases have been treated with marked success by its use, hypodermatically in aqueous solution, in combination with a 10 per cent. solution of idoform-glycerin injected at the site of disease. The dose for internal administration is one-half to two minims, in pill or capsule.

**Iodopyrin**, a chemical compound of iodine and antipyrin, promises to be an agent of value in the treatment of typhoid fever and tuberculosis. "Five cases of typhoid fever are recorded, and in each instance the temperature was rapidly lowered to normal. In cases of pulmonary tuberculosis the administration of the drug caused profuse sweating and in every way the antipyretic action was all that could be desired." In the stomach it is decomposed into iodine and antipyrin. Dose in powder, 1 to 5 grains.

**Salipyrin**, antipyrin salicylate, in crystaline scales or in powder; it is odorless and of a pleasant acidulous taste, freely soluble in alcohol. Recommended in rheumatism and neuralgia where the combined action of antipyrin and salicylic acid is desired. It has a pronounced analgesic action, diminishing the tense painful feeling, and lowers the bodily temperature without causing the profuse perspiration that the administration of salicylic acid does. It is recommended by Hennig in influenza. Dose, 15 to 30 every two, three or four hours, until 90 grains are taken. The following formula is given as a suitable one for administration: Salipyrin, one and one-half drams; glycerine, three and one-half drams; syr. rub. id., seven and one-half drams, aqua dest., ten drams. Of this a tablespoonful should be taken at a dose.

**Antikamnia**, which made rich its progenitors, by the great demand that sprung up for it in so short a time, is not, according to the best information I can get, a chemical compound, but a combination of acetanilid and bicarbonate of soda, the formula being eighty parts of the former to twenty of the latter. A great many physicians and druggists are now manufacturing their own antikamnia.

When Koch electrified the whole civilized world by his statement at the meeting of the International Medical Congress in Berlin, in 1890, that he had made the discovery of an agent which he believed would cure tuberculosis, (notwithstanding the fact he urged upon the profession the necessity of making further investigation before it would be safe to make the discovery public) he was so urgently appealed to by both the profession and the laity, that he announced it
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prematurely. Men flocked from every country and clime, to court favor at the feet (if need be) of the great benefactor of the human race, if they might but receive a few drops of the precious liquid. The result was that a great many lives were sacrificed through the want of the knowledge that the discoverer wished to, and would have gained, before he made the matter public, had he not been so importuned. Too much had been expected; this fell destroyer of man was not to be so sweepingly exterminated. The disappointment was keen and sweeping. Notwithstanding these facts, the faithful Koch and a few patient and earnest investigators have been devoting themselves to the problem. Koch is preparing the tuberculin in more perfect form, purified and concentrated.

Klebs, in the Deutsche Medicinische Wochenschrift, 1891, No. 45, page 1233, reports that by precipitation with platinum and the so-called alkaloid re-agents, he has been able to free tuberculin from the substance upon which its deleterious effects depend, leaving in solution an albuminose, which he believes to be the curative agent. To this agent he has given the name, alexin or tuberculocidin. The effect of this is very much less depressing on the circulation than that produced by tuberculin, and unless the dose is excessive there is no febrile reaction. The same investigator (Die Behandlung der Tuberculose mit Tuberculocidin, Hamburg and Leipzig, 1892) believes that the efficacy of the tuberculocidin is in its action on the tubercle-bacilli, causing their degeneration.

Thus large doses, by causing more rapid disintegration, cause some elevation of temperature by a form of auto-inoculation as with tuberculin. The process following the use of tuberculocidin is not a necrotic process of tuberculous tissue with consequent dissemination of bacilli, but rather an involution associated with exudation.

The initial dose of tuberculocidin is laid down at two milligrams (0.002); if this occasions no unpleasant manifestations, the dose is rapidly increased to a decigram (0.1) or a decigram and a half (0.15). Hemorrhagic fever is no contra-indication, and may be relieved by energetic treatment. When indicated other therapeutic measures may be used in conjunction. In seventy-five cases, principally pulmonary tuberculosis, subjected to the tuberculocidin treatment in which sufficient time had elapsed to form at least a reasonable conjecture, fourteen were cured, forty-five improved, fourteen remained unimproved and two died. There were no complications. We should not be too sanguine, though these results are encouraging, but let us hope that, the first enthusiasm having died out, on its ruins may yet be erected a cherished hope in full realization.

Methyl Violet, a new antiseptic, and a member of the coal-tar or aniline series, was first prominently brought to the notice of the profession by Prof. J. Stilling (translation by Dr. Flavel B. Tiffany in K. C. Medical Index, Vol. 11, No's. 129 and 131) of Strasbourg University, though the fact that their products possessed antiseptic properties was published twenty years ago by Dr. Chas. O. Curtman of St. Louis. The agent has been more extensively used in ophthalmic practice than elsewhere, but is also used in aural practice, in surgical dressings and in dermatology, especially in the treatment of eczema.

Professor Stilling, after very thorough investigation, and quite extensive clinical observation, makes these assertions:

"My results in these maladies, (diseases of the cornea) are already sufficiently numerous to allow me to designate methyl violet, as a means of treatment of ulcer of the cornea, which leaves far in the background all those employed up to this time. I am sure it will take the place very soon of the galvanocautic treatment of ulcerations of the cornea."
In diseases of the uveal-tract it is also highly beneficial. Its power of penetration is very great. It is said that a drop of the solution in the conjunctival sack almost immediately causes an intense violet color of the iris. In the treatment of dacryo-cystitis it is highly extolled by Dr. G. M. Gould and Dr. E. DeSchweinitz, University Medical Magazine. Bacchi, Rescousie (Annales de la Policlin. de Paris, 1891, No. 12, p. 549) concludes that the agent is an excellent antiseptic in ocular surgery—to be preferred to all others. Useful in simple and granular conjunctivitis, but of doubtful utility in rebellious ulceration of the cornea and almost useless in purulent ophthalmia.

Dr. Flavel B. Tiffany, of Kansas City, lauds its virtues in ophthalmic practice in several articles and in a letter to me on the subject, last month, stated that he used it a great many times every day. In all diseases of the cornea it was efficacious, but especially servicable in the treatment of deep seated affections of the eye; such as iritis, cyclitis, choroiditis, and hyalitis. In cases of corneo-iritis, where atropia aggravated the corneal inflammation, the addition of the methyl violet made it very effectual. He had succeeded in breaking up synechia with this combination, that atropia alone had failed to reach.

In closing his communication he says: "It is a drug I could not well do without." It is used principally in aqueous solution 1 to 1000, pomade 1 to 1,000 of alboline, and in crayons.

In October, 1891, Dr. Seth S. Bishop, of Chicago, read a paper before the Mississippi Valley Medical Association on "Camphor-Menthol in Nasal Surgery." The doctor observed that when camphor gum and menthol crystals came in contact they formed a clear oleaginous liquid. It occurred to him to try this in the treatment of catarrhal conditions of the throat and nasal passages. The result was so satisfactory with a twenty per cent. solution in lanoline in the first instance, that he was enabled to avoid the removal of hypertrophied tissues from one nasal cavity, which had been necessary in the other, in order that the eustachian catheter might be passed. The application of the solution with the atomizer, causes blanching of the mucous membrane, shrinking of the turbinated bodies, diminution of the discharge and considerable increase in the size of the canal. It was tried in hay fever with very decided relief from its annoying symptoms; Ex-President Lockwood of the U. S. Hay Fever Association, testifying to its efficacy in his own aggravated case. In cases of laryngitis where the patient was unable to speak louder than a whisper, three inhalations, of solutions ranging from 5 to 10 per cent. in twenty-four hours were sufficient to restore the voice to its normal tone. The most important point is to use proper discrimination in the selection of the strength of the solution for each individual case. "In chronic hypertrophic rhinitis in a person of dull sensibilities, a 25 per cent. solution may be used with excellent effect, whereas, in the opposite extreme of temperament, in which the Schneiderian membrane is exquisitely hyper-sensitive, a first inhalation stronger than a three or five per cent. solution may appear to act like an irritant." A ten per cent. solution was injected into the Eustachian tubes which were impervious to either the Politzer or Valsalva methods, with the result of opening up the tubes so that remedies could be easily injected into the tympanic cavity."

In concluding the article Dr. Bishop says: "Finally, camphor-menthol contracts the capillary blood vessels of the mucous membrane, reduces the swelling, relieves pain and fullness of the head, or stenosis; arrests sneezing, checks excessive discharges and corrects perverted secretions."
In answer to a letter of enquiry concerning his further experience with the combination, under the date of April 12, 1892, he writes as follows:

"In reply, I have to say that camphor-menthol has more than met my expectations. I am employing it constantly in private and hospital practice, in various strengths, with better results than any other single combination has afforded up to the present time."

The following are extracts from this letter:

"In ozena the strongest solutions are easily borne (20 or 25 per cent.) The best results are obtained by first irrigating the nasal passages by rather forcible sprays of a solution of Dr. Carl Seiler's anti-septic tablets. * * After thoroughly cleansing and drying the nasal cavities they are ready for spraying with the camphor-menthol solution. * * It is sometimes advantageous to terminate this treatment with an insufflation of aristol or finely pulverized boracic acid. The ulcerated membrane in this form of catarrh soon takes on a healthier appearance and loses its odoriferous character."

"Since my report to the Mississippi Valley Medical Association, I have had occasion to use camphor menthol in numerous cases of laryngitis, and my additional experience confirms the previous statements made regarding its action on the vocal cords. For example, I have at present under treatment, a public singer who was recently attacked with laryngitis a few days previously to appointment to sing at an entertainment. Her voice was weak, hoarse and husky. Treatment for three days with sprays of three and five per cent. solutions of this simple remedy restored the voice to its normal timbre so well that other vocalists who were present, detected no change in the voice."

"The effects of camphor-menthol in catarrh of the Eustachian tube and middle ear, accompanied with subjective noises in the ears, have been vastly superior to any I have ever been able to obtain from iodine or the other well tried remedies."

I have dwelt at some length on this subject on account of the predominance of catarrhal conditions in this state.

We have been using this remedy in our office for the past few months in the treatment of these conditions with a success which has been highly gratifying.

The theme which is agitating the mind of the laity more to-day than perhaps anything else medical, is the bi-chloride of gold cure for inebriety. It is generally believed that the discovery was made by Dr. Keeley, and in consequence his name is on every tongue; his praises are sung by hundreds of recent graduates in the seeming fruition of a rescue from a thralldom whose end is the drunkard's grave.

Greedy for gain, numerous institutions have sprung up in almost every city, village and hamlet in the land; even the clergy have been drawn into the mighty vortex of the on-rushing tide, and their names may be seen on the boards of directory of these institutions.

It would appear from the following analyses of the nostrums administered at the Dwight Institute, as reported by Dr. J. Lucius Gray, that more aurium is being emptied into the pockets of Dr. Keeley than finds its way into the tissues and the gastric apparatus of the patients:

"The purely medical treatment consists in the use hopodermatically, four times each day, of a solution which shows an analysis of:

Strychnia Sulph.................grs. ss
Atropia .........................gr. ¼
Acid Boracic....................grs. xv
Aq. Dest .........................oz. iv"

"The formula of the 'dope,' or medicine taken by the mouth as given in the Druggist's Circular and 'Secret Nostrums and Systems,' is:}
Ammon. Muriate .................. grs. i.
Aloin ........................................ grs. ii.
Tr. Cinchon. Comp. ................. oz. iii.
Aq. Dest .................................... oz. i.

"Teaspoonful six times daily."

Dr. Gray, who is perhaps as good authority on this subject as there is in the country, thus outlines his treatment in an article read before the Chicago Medical Society in November, last:

"When a patient is admitted to the Sanitarium he is first given an active laxative and a pint of good whisky. The active treatment is begun by the administration hypodermically at 8 and 12 o'clock in the forenoon, and at 4 and 8 o'clock in the evening, of a mixture containing the chloride of gold and sodium and the nitrate of strychnia—of the former, 1.10 grain, and the latter, 1.40 grain. He is also given by the mouth, a teaspoonful every two hours, of the following mixture:

Sod. Gold Chlorid ...................... grs. xii.
Amon. Muriat ............................. grs. vi.
Strych Nitrat ............................ grs. i.
Atropia .................................... grs. ¼
Fl. Ext. Cocoa ............................ oz. i.
Glycerine .................................. oz. i.

"The patient is allowed all the whisky he can drink. During the first day he takes plenty of it. On the second day the quantity of the gold and strychnia is increased to 1-5 and 1-30 grain, respectively, and the liquid is increased to two teaspoonfuls. The quantity of whisky allowed is not diminished, but the patient's needs are not so great as on the first day, and on the third he generally has a positive dislike for it, and by the morning of the fourth day he takes his last dose.

"The treatment is kept up and the doses increased until the physiological effects of the gold are produced. The quantity of the drugs administered is then graduated so as to keep the patient just within the point of toleration, and kept there for at least three weeks, after which it is gradually reduced until the patient is free from its influence, and is totally indifferent to the sight, taste or smell of alcoholics.

"It must not be supposed that the exact prescriptions I have given can be adapted to every case. Inebriety can no more be successfully treated by a routine plan than can typhoid fever, and the formulas given simply form the basis upon which individual treatment of each case is founded. With it I believe about 70 per cent. recover."

This report has grown prolix, so I will call myself to a halt.

PISTOL SHOT WOUND OF THE HEART WITH RECOVERY.

By G. H. Peebles, Lincoln.

Was called April 23, 1887, 1 p. m., to see Miss M—, aged thirteen, who had received a bullet wound in the left side of the chest.

On removing the clothing found the ball had entered 1¼ inches downward and inward from left nipple—no wound of exit. The patient was lying across the bed, with pallid and anxious countenance; weak, thready, irregular pulse, marked dyspnœa, voice husky, exclamation gasping, tumultuous yet feeble heart action. Blood gushed from the wound with each respiration, this continued so free I plugged the external wound with a pledget of absorbent cotton. This was removed about an hour after—no hemorrhage followed. I then learned that the wound was the result of an attempted suicide; revolver 38 calibre, long range cartridge. The patient was about three rods from the house at the time of the shooting and walked, unsupported and alone, to the house and up stairs and threw herself across the bed in the position in which I first saw her. The route was marked by blood, which flowed
out between the fingers of her hands which she held against the chest while walking. After partial recovery from shock under ordinary treatment of artificial heat and hypodermic administration of morphia (no alcoholic stimulant used), I turned her to the right-side and elevating the left arm with the scapula, the ball could be distinctly felt just external to the seventh rib near its articular attachment with the transverse process of the vertebra; the upper border of the rib had been fractured by its passage.

The patient was placed in a recumbent position, head low, a liquid diet ordered and morphia administered when necessary, to allay pain and control restlessness.

The case progressed with a pulse from 132 to 135, respiration 38 to 40, temperature 98½ to 99¾: until April 27th, when the left pleural cavity began to fill up and at 7 p. m. I found pulse 132, respiration 51, temperature 99½ and at 10:30, pulse 134, respiration 52, temperature 99¾.

April 28th, 7 a. m., pulse 135, respiration 64, temperature 99½. At 10 a. m., assisted by Dr. C. C. Cook, of David City, I aspirated left pleural cavity, removing a quantity of fluid blood. At noon, two hours after, pulse 132, respiration 52, temperature 99½, and at 3 p. m., pulse 122, respiration 44, temperature 100.

April 29th, 9 a. m., pulse 120, respiration 38, temperature 97½. Her menses had appeared during the night; but normal as to time and quantity. She was given small doses of alcoholic stimulants and digitalis, and at 3 p. m. her pulse was 125, respiration 36, temperature 99½.

April 30th, 7 a. m., pulse 118, respiration 34, temperature 98, and at 3 p. m. her pulse was 120, respiration 36, temperature 98½.

Was called hurriedly at 10 p. m.; found her in a state of collapse, characteristic of hemorrhage, which I diagnosed to be from the heart with distention of the pericardium. She was pale and pulseless, covered with a cold clammy perspiration; respiration 64, temperature 96½. This condition continued under the most heroic efforts at stimulation, in addition to being surrounded with bottles of hot water, brandy and beef tea by enema. She took hypodermically brandy and ether, administered alternately, about every ten minutes. When at 5 a. m., May 1st, seven hours after, she began slowly to rally, and at 9 a. m. her pulse was 125, respiration 44, temperature 97—continued stimulants and at 3 p. m. found reaction fairly established with a pulse 120, respiration 46, temperature 99¾. From this time until May 10th the case progressed with but little change, the pulse ranging from 110 to 125, respiration 34 to 40, temperature 98½ to 100¼, after which they began slowly to approach the normal, and on May 18th, twenty-five days after the shooting, the pulse was found at 80, respiration 20, temperature 98½. From this time on she convalesced rapidly.

Shidell says in the causation of sudden death from traumatic lesions of the heart there are three important factors:

1. Shock. 2. Anemia of the brain and lungs directly caused by the escape of blood from the chambers of the heart. 3. Arrest of the cardiac movement by compression resulting from distention of the pericardium with extravasated blood. Oftentimes, in such cases, necroscopy shows the heart firmly contracted and empty, with much extravasation of blood in the pericardial and pleural sacs.

Traumatic carditis is a very infrequent complication, if, indeed, it ever does occur. From a careful study of the reported cases it would appear that the remote causes of death from traumatic lesions are essentially two: (1.) Softening of the cicatrix with extravasated blood into the pericardium. (2.) The distention of the pericardial sac with inflammatory products: that the
rational treatment consists in opium to control pain and restlessness; stimulants, in cases of great prostration; cardiac sedative, should signs of dangerous reaction appear; and the aspirator when the distention of the pericardial sac with inflammatory products cause much dyspnœa or cardiac embarrassment.

I saw this patient two years ago and made a careful examination of the chest. She was then complaining of occasional attacks of severe pain in the precordial region; found the heart somewhat enlarged and its action irregular.

One element in this patient, which I think proved an important factor to recovery, was her wonderful will power; during the hemorrhage the pain accompanying aspiration of the chest, the stage of collapse, and the long period of twenty-five days gasping for breath, she demonstrated a will and determination to live most remarkable, declaring, when her condition was referred to, "she would not die."

In closing this report I desire to acknowledge my indebtedness to Dr. C. Cook and M. W. Stone for their valuable assistance and council, and record my appreciation of a little service rendered by J. H. Calking, (since deceased.)

PROFESSIONAL PECULIARITIES.

By R. McConaughy, York, Neb.

Hippocrates, were he permitted—Moses-like—to ascend the hill of science, and look out over the Promised Land, would behold strange things in the armies of his followers as they lay encamped in the plains below. After a sleep of more than 2,000 years his vision would be somewhat dimmed, but our modern specialist would soon fit him out with a combination of lenses that would enable him to focus his power of accommodation in such a manner as to convince him that what he saw spread out before him was not a dream, but a living reality.

Why should not the spirit of the Father of medicine be moved within him, and his voice cry out, "whence came this grand army of my followers! Surely this is the Promised Land, but these I see before me are not all my chosen people. Contrary to my wishes the gates have been opened and my people corrupted by teachers of false doctrine, who have forced an entrance for the purpose of feasting upon the milk and honey flowing in such abundance in this goodly land. I will descend from Pisgah, cross over Jordan, and witness for myself the strange things that have happened during the past twenty-two centuries." Let us follow this Medical Moses as he silently enters and passes unseen through the mighty host encamped on its fertile plains. The father of medicine was distinguished for keen observation, so that nothing will escape him as he passes from camp to camp.

Just within the border land, the first to meet and to greet him is his fellow-townsman, Praxagoras of Cos; a disciple of Aësculapius—a priest at the altar of his temple, where the sick and the maimed were laid at his feet, that he might heal them by the superstitious rites of his preceptor. Amid all his superstition Praxagoras was the first to observe the relation of the pulse to the general condition of the system. He was the last of this famous school, the only regular physician of antiquity.

We cannot linger here, for a greater than Praxagoras is just across the way: Aristotle, the greatest of ancient philosophers, the man who first deduced a logical argument for the existence of God, is surrounded by a group of devoted followers, to whom he is explaining the intricate machinery of the human anatomy, and the wonderful workings of its God-given facul-
ties. Crude as were many of his ideas, derived only from the dissection of animals; yet so important was this practical knowledge, that it laid the foundation of a comparative anatomy, that for centuries had little added to it that was of value.

He was perhaps not so far wrong, when he placed the seat of the intellect in the heart rather than the head; and, if he was, we forgive him, for he thereby exhibited the warm sympathetic heart of the physician, and not the cool reasoning brain of the philosopher.

But we must hasten on. Let us step over to the Alexandrian school of medicine. Here we shall behold for the first time the anatomist at work on a human dissection. The great Herophilus is the demonstrator; he is separating nerves from tendons, and tracing them to their origin in the brain; following up the curvings of the brain and eyeball and giving them the names which they still retain; following up the great longitudinal and lateral sinuses to their confluence, the "torcular Herophili," named in his honor. Now he opens up the abdominal cavity, and dissects out the beginning of the small intestine, which he calls the duodenum. He also examines the internal organs, and lays the foundation for the study of pathological anatomy; a science which was not again revived until taken up by Morgagni 2,000 years later. By the side of Herophilus stands Erasistratus, the inventor of the catheter, and Ammonius, the inventor of an instrument for crushing stone in the bladder. The great medical library at Alexandria must be interesting to visit, but our time is limited and we must hasten on.

We have now reached the college at Rome, and entering in we find Celsus discussing with his fraters the systems of Hippocrates, and the Alexandrians, and giving them his lectures on diet, and the treatment of diseases, both medical and surgical. His work, "De Medicina," in eight books, is still extant, and treats of stone in the bladder, use of the catheter, hernia, cataract, wounds of the intestines, trephining, use of the ligatures in severed blood vessels; in varices and in hemorrhoids, as well as most of the great operations in surgery.

Who is this pompous individual standing aside from the common herd? He is Andromachus, physician-in-chief to his imperial highness, the Emperor Nero. Why does he draw his pharisaical robes so closely about him? Not because he is medical adviser to the tyrant, but because he has outdone all ancient and modern manufacturers of pharmaceutical compounds, by concocting a poly-pharmaceutical nostrum of "dried flesh of vipers, with 60 other ingredients," which held a place in the pharmacopoeias until a century ago.

Galen of Pergamos, probably the first appointed city physician to the School of Gladiators, is now in Rome, the protege of the Emperor, Marcus Aurelius; is famous in anatomy and medicine, and the most eminent physician of his time. For 1,000 years his works were recognized authority in Europe, and 83 treatises on medical and philosophical subjects, with 15 commentaries on the works of Hippocrates, are still extant. Between Herophilus and himself, says Galen, there were only some half a dozen physicians sufficiently interested in anatomy to make human dissections. Galen dissected only animals, and advised his students to go to Alexandria for the benefit of human dissections. Although he dissected not the human body, yet he surpassed all in laying bare the human soul. He divided it into three parts: "a vegetative, residing in the liver; an irascible, in the heart; and a rational, having its seat in the brain." His work on anatomy, however, was standard authority for 1,400 years; or until the great Vesalius entered the arena against him.
By the side of Galen stands Dioscorides, whose work on Materia Medica, imperfect, though it was, *alike* stood the test, and was standard authority on *that* subject for 1,400 years.

In this same group stands another who is worthy of special mention, Asclepiades, the friend of Cicero; the one who first separated acute from chronic diseases. Health, with him, consisted in a normal action of the pores of the body; and one of his pupils divided all remedies into astringents and relaxants. He was greatly in advance of the age in which he lived; in fact his powers of discernment were up to those of the modern physician. Not only did he depend largely upon diet, fresh air, etc., but he gained fame and wealth by humoring the whims and catering to the prejudices of his patients. It is proper to add that he was never sick, but died by an accident, at a great age. Great was Asclepiades of Rome.

Let us give these old heroes due credit for the grand work they did in laying deep the foundations of our noble profession: against superstition, priestcraft, quackery and charlatanism did they struggle. Rome, for 600 years had no physicians. What herculean efforts were made necessary in order to weed out these nests of vipers.

However pleasant and profitable it might be to linger with the old fathers, yet we must push on, for there is a dark valley to cross, right in the midst of what ought to be one of the brightest spots in all this fair land: in the midst of the camp is the standard of the cross. The early Christian church, instead of encouraging the study of medical sciences, put upon them the mark of disapproval. Art and literature had already fallen, and medicine began to decline. Even the power of the great Galen could not stem the tide. At this critical time, the church might have made its power felt; but it joined the pagan world, characterized human dissections as profaning the bodies of the dead, and discouraged original investigation.

The lethargy of the times continued through the six centuries: there were only some half dozen writers and they contributed very little of value. Oribasius in the fourth century, Aëtius in the fifth, Alexander Trallianus in the sixth and Paulus Aegineta in the seventh. The latter was a little in advance along the line of surgery. The dark cloud has a silver lining; for as we emerge from the valley a watch tower is seen upon the hill. Is it a pagan temple dedicated to the god of medicine. Æsculapius? No! for Hippocrates does not recognize it. The banner of the cross is floating over it. Christianity has redeemed herself: It is the hospital at Cæsarea, founded by St. Paula in the fourth century; the first home for the sick and afflicted ever established. We are in a new country. Other hospitals and colleges appear in view, equipped with able professors. A Christian emperor is upon the throne, and has commanded that he who would attend the sick must exhibit a diploma, in testimony of the fact that he has passed the necessary examination, and is duly qualified for his sacred calling. Every important town has its Board of Examiners, and doubtless its citizens were as well protected as though they had been under the fatherly care of our own State Board of Health.

Our pilgrimage now becomes a weary one, for we wend our way through the mausoleums of the dead. The Eastern and Western empires have fallen, and with them lies buried the knowledge of the past. Is this to be the end of all our hopes? "Are we so soon forgot when we are dead?" The reverie is not a pleasant one, but it is soon dispelled. We are once more in a strange land. Who is this studious looking youth bending over these ponderous manuscripts? We are in Arabia and it is the famous Avicenna. Only a
youth, but his fame as a physician has spread far and wide. Only a young man of twenty-one years, but he has written an encyclopedia called "Book of the Sum Totals." He resurrected Galen and the old Greek writers; added his own experience and investigation; wrote over sixty medical works, the most important one being the "Canon of Medicine" a standard authority both in his own country and Europe for centuries. It was published in Arabic, and Hebrew, and passed through thirty Latin editions.

Avicenna, unlike the modern professor, closed his lecture every evening with feasting and dancing. He was rich and charitable and distributed his fortune to the poor.

Here also do we see Geber, founder of the Arabian school of chemistry—the first manufacturer of nitric and sulphuric acid, and aqua regia—and a group of some half dozen noted writers. To these men do we owe the first description of small-pox, measles and scarlet fever; the discovery of the distillation of alcohol; and many of the drugs now found in our pharmacopoea.

What an interesting old ruin is this which next appears, covered with moss and vine, and crumbling into dust. By the inscription over the doorway, we find it to be the great school of Salerno in Italy; founded in the seventh century, and in the very height of its celebrity in the thirteenth. We enter, and carved upon a marble tablet is the royal edict of Frederick II. "No one shall practice medicine in the kingdom until he has been examined by the faculty of Salerno." Our interest is aroused. What are the qualifications required? Ah! here is another tablet. "He must complete the course, be examined on the therapeutics of Galen, the first book of Avicenna, and the aphorisms of Hippocrates. He must swear to be pure in his life, to be submissive to the laws, to attend the poor gratuitously, and not to share the profits of the apothecary." He then received a diploma, but for the first year was compelled to practice under the superintendence of an older physician. Ye shades of our forefathers! Ye gods of the middle ages! What a spectacle do thy sons of the nineteenth century present. The air in that old ruin was stifling; we slipped out into the bright sunshine, leaving old Hippocrates to shed his tears in silence.

When sufficiently recovered from the severe nervous shock through which we had just passed, we once more take up the line of march. We do not go far until we reach the university of Bologna, and entering the anatomical room, we find Mondino at work upon the body of a woman, and carefully noting down descriptions of his dissections which are to be the guide of students for the next 300 years. He throws no light upon the brain, for his superstition prevents him from opening the cranium for fear of committing a mortal sin. Galen was still authority, and neither Mondino nor those who followed his boldness in making human dissections, were able to add anything to shake that authority. If any differed from Galen, it was not Galen who was mistaken, but such differences were looked upon as exceptions, or evidences that the human race was degenerating.

We find none who are willing to come out in bold opposition, until we enter this university of Bologna, 200 years later, and find Vesalius,—who was also a distinguished surgeon,—willing to stem the popular tide, and point out the errors of the great master.

Let us step just across the way, into the college of surgery of Paris, and see Ambroise Pare, the boy surgeon who at nineteen was appointed surgeon to the French Infantry; later on to four kings in succession; who substituted for the boiling oil treatment of gun-shot-wounds, the plain dressing; for the actual cautery to stop
hemorrhage, the ligature; and taught, that
in searching for a bullet, the patient should
be placed in the same posture as at the
moment of receiving the wound.

New light is dawning, let us follow it
up. Here stands the college at Rome;
and the Pope’s physician, Cæsalpinus is
the lecturer? What does he teach? “For
in animals we see that the nutriment is
carried through the veins to the heart as
to a laboratory, and its last perfection
being there attained, it is driven by the
spirit which is begotten in the heart through
the arteries and distributed to the whole
body.”

Servitus—noted for his disputes with
Calvin on the subject of heresy, and who,
as a result of that controversy was burned
at the stake in Geneva—was also a cele­
brated medical lecturer, and had practically
worked out the circulation of the blood.

We are now in a country so thickly
settled that we are bewildered. Harvey,
assisted by Malpighi and his microscope,
has demonstrated to the world the circula­
tion of the blood. Borelli has announced
the mechanism of respiration of the heart,
of the blood in the vessels, of the intestinal
canal. With mathematical certainty he an­
nounces that the heart at each contraction
overcomes a weight of 180,000 pounds.

Near by stands Haller, the father of
physiology, and Boerhaave, one of the very
first clinical teachers.

On an eminence commanding a view not
only of the interesting country through
which we have been centuries in passing,
but pointing the way across a more inter­
esting yet to come—the nineteenth century
—stands Jenner, the greatest benefactor
the human race has ever known, the only
man who ever really met and conquered the
King of Terrors, and snatched from his iron
grasp millions of victims. He points out
the way to a yet undiscovered country.
As we wend our way through these thickly
settled camps, we are astonished at the
lack of harmony which prevails among the
workmen upon the temple. There appears
to be not one but many master builders.
Confusion reigns supreme. What a strange
structure they are erecting. It looks more
like a tower of Babel than a beautiful and
symmetrical temple built from correct
architectural designs. Truly we are in the
midst of a peculiar people. Who is this
strange little man who has withdrawn from
the busy workmen and surrounded himself
with a small group of curious and admiring
followers? His cranium is contracted and
his eyes sunken. Poor man, he has been
nursing one idea so long that his brain is
shriveling up; “similia similibus curan­
tur” has so saturated his anatomy that
cerebral atrophy has been produced. “The
proper medicines to be produced in dis­
eease are those which produce similar
symptoms in a healthy person,” says this
little man. These healthy symptoms when
accurately proven and thoroughly under­
stood, must be carefully handled when
found in disease; for there is great danger
that they will explode, and the last estate
of that patient will be worse than the first.
The diseased body is very highly sensitive,
and the trituration, attenuation, tincture or
globule must be so skillfully administered
that only the morbidly affected tissues will
be reached and controlled. Great care
must be exercised that the first decimal
attenuation is not given, when the seventh
centesimal attenuation is indicated. The
usual triturations must not be used, when
the high dynamization of the wonderful
potency of a 100,000th is indicated.

The dynamo of the brain must be so
adjusted as to run off the proper number
of dynamizations, per patient, or the dy­
namite may explode in the intestinal tract
of the poor victim, and make of his entire
anatomy, globules of higher potency.

To the ordinary practitioner, says
Samuel Christian Frederich Hahneman, it
is incredible that a person when sick is
violently affected by a millionth part of the same drug that he swallowed with impunity when he was well. Most incredible Samuel; that the ordinary practitioner should swallow that statement with impunity, even though it were triturated with many grains of allowance. Many of thy own disciples do not swallow it, for side by side with the little mind-cure tablets of their hand satchel, are to be found the really effective pills and granules of commerce.

As we stand spell-bound by the doctrine enunciated, the little man makes the astounding statement—that Hippocrates taught that medicines sometimes acted according to this rule of "similia," and at other times according to that of "contra­ria." And Hippocrates again buried his head and wept at the thought that anything so unphilosophical, so unscientific should ever have been imputed to him.

It pains us to think of these dear deluded people, but we leave them to their fate, and press slowly on.

Who is this peasant youth of thirteen years, the center of attraction in the next camp? He has sprained his wrist and is holding it for relief, under the town pump. Now he binds it with a wet bandage and the cure is complete. Six years later he is run over by a cart, ribs are broken and he is seriously bruised. His injuries are fatal, so say the physicians, but he tears off their dressings, puts on his wet bandages, replaces the ribs by inflating the lungs and pressing the abdomen against the window sill, and recovers.

Vincenz Priessnitz has but one idea, but unlike the contracted cranium of his neighbor, his head is swollen; he has water on the brain; it is a clear case of hydrocephalus. Water must cure all diseases: we are in the great Hydropathic Institute of Grefenberg. What crowds are waiting to be rubbed and scrubbed—we are not in need of a bath, and are fortunate in escaping the great unwashed throng.

We next find ourselves among a new and rather select body of the elect so-called, the skirts of whose garments do not trail in the dust of the common mortal. They do not feast on common clay, nor eat dirt, but are fed on such dainty food as plants and herbs. They were once omnivorous, but old Benjamin Thompson selected for them only the best, and demanded that they should use nothing unclean.

John M. Scudder thought the diet prescribed a little restricted, and decided that some "specific medication" was necessary to stimulate digestion, not a specific in a limited sense, but for a "particular pathological condition." He says, "a certain class of diseases generate similar morbid products, and remedies calculated to remove these through the various excretory organs are specific remedies."

We are not at home in this wilderness, so we merely take a passing look at the Gold cure, the Faith cure, the mind cure institutes, and as we emerge from chaos are shocked to find progressive locomotor-ataxia coming on, and that if we are to succeed in reaching home in this Promised Land, we must step into the power house, and have our spinal columns stiffened by the current of the electro-therapeutist.

We have become somewhat nauseated by the vile mixtures we have been compelled to take during this long tramp, so we will clean out our stomachs; not with the modern stomach tube, but the stomach brush of the court physician of 200 years ago. We are told to "push this instrument down the gullet, poke it about and turn it around, much in the same way as a chimney sweeper's brush is handled by a dextrous operator on soot. Gentlemen should thus sweep out their insides not oftener than once a week, but not less frequently than once a month." We are now thoroughly electrocuted, washed and rubbed and scrubbed without and within; have the cobwebs of antiquity brushed from
our brain, are refreshed and purified, and ready to take our medicine straight and unadulterated. What a pleasure to be freed from the “isms,” the “pathies,” the superstition, the quackery of the Liliputi-rians we leave behind, and to mingle once more with broad-minded, generous, charitable, self-denying, sympathetic, liberal, noble, full-grown men. Men fully developed in head and heart, generous enough to accept truth wherever it is found, anxious to acknowledge error when proven to be such, accepting no set formulas or dogmas, but bidding glad welcome to progress under whatever banner she may appear. These are the men with whom we now mingle.

The true physician need not be labeled, he is known and read of all men. He is strength to the weak one, courage to the faint one, hope to the fallen one. What a vast army lies here encamped; what lives devoted to the best interests of suffering humanity. The ranks we so lately left are but a corporal’s guard compared with our present surroundings.

With a Gross, a Pancoast, a Cooper, a Hunter, a Gunn, a Mott, a Flint, a Dun-gimson, a Meigs, a Rush, a Physic to inspire courage, to say nothing of the vast army of the living to lead on to victory. What cannot yet be done for God’s chosen people? We are content to rest in these green pastures, and beside their still waters; and, as our fellow traveler, Hippocrates, before taking his leave peers into the future, he reminds us that we are nearing the end of all perfection. There is a limit to human skill. The laboratories appear to have almost unlocked the mysterious chamber; to have discerned the hidden secret of life and death; to have cut down old Time with his scythe; but they cannot by their alchemy find an antidote for death.

It was Satan who said if ye take of this elixir that I shall give you, ye shall live. It was the Almighty who declared, thus far shalt thou go, and no farther. In the day thou eatest thereof, thou shalt surely die. Man by disobedience forfeited his lease of eternal life, and the seed of death was sown. The bacillus found a home in the Garden of Eden, and no alchemist shall ever enter there. The wise man said, “canst thou by searching find our God?” The finite mind cannot unravel the mysteries of life and death; they are bound up in the mind of the Infinite. May we feel the responsibility of the lives placed in our keeping, but remember that God alone holds the key to the future.

There is a limit to human knowledge, for has it not been said, “thus far shalt thou go but no farther.” Let us not attempt to fathom the unfathomable, but in our search after knowledge, be content to keep within the limit of human possibility.

“Humbly—for knowledge strives in vain to feel Her way amidst these marvels of the mind; Yet undismayed—for do they not reveal The immortal being with our dust entwined.”

—UTERINE INVERSION.—

By P. S. HALL, M. D., Mead, Neb.

To the general practitioner comes all forms of disease and accident. Experience soon teaches him that his domain is as wide as the knowledge of medicine. Uterine inversion is among the rarest forms of accidents we are liable to meet, and for that reason I am tempted to make this weak report of one case which has come my way.

It has not been encountered once in 140,000 cases confined in the London Maternity, Charity or lying-in hospitals. It has occurred once in 190,800 cases in the Rotunda hospital since its foundation in 1745.

In all my acquaintance with my brother physicians, I have met but one who has ever recognized it, and it is due to their
urgent request that I trouble you with this report.

The subject is a Mrs. H., age 35, nationality American, the mother of five children. I was her attendant in her three last labors. Her third labor was normal. The fourth was marked by severe post-partum hemorrhage due to a pediculated fibroid pendent from the cervix uteri. The fifth labor occurred on February 25, 1890. I was summoned about 6 o'clock p. m. that day to attend her at her home six miles in the country. The labor was a rapid one—the child being born as I entered the room. Without delay the cord was severed and while I was in the act of handing the child to the nurse a severe pain expelled the placenta and membranes entire. The expulsion of the placenta was accompanied by quite a gush of blood. Fluid extract of ergot—one drachm was immediately administered and friction of uterus resorted to. Feeble contraction of uterus ensued followed by relaxation and alarming hemorrhage. Ergot was repeated at intervals and the uterus grasped and held firmly in the hand, but in spite of all my exertions it would expand and great gushes of blood follow. Pieces of ice were then inserted into the uterine cavity which for a time promised relief, but as soon as they were melted and passed away the hemorrhage returned. Careful examination revealed to me no physical cause for the alarming loss of blood.

Patient now became very restless, with feeble heart's action, and a fatal result seemed to portend. I asked for assistance and Dr. Morton of Wahoo kindly responded, but upon his arrival the contractions began to grow stronger and more frequent, the hemorrhage ceased and my patient while weak and exhausted was resting comfortably. It required four hours to get control of the hemorrhage. No further trouble ensued and rapid convalescence followed. Some six weeks subsequent to confinement I met this lady riding out with her husband and was surprised to see her apparently the picture of perfect health. She stated that she had not felt so well in years, but thought that "everything was not right with the womb." By arrangement she was visited at her home a few days afterward and a careful examination made in all but one respect, I did not probe the uterine cavity. The os was found large and patulous and easily bleeding on touch. Marked sub-involution of the uterus also existed. I advised the usual treatment in such cases but heard no more from her until May 5th, when I was hastily summoned to see her at her home, the report being that her menses had returned and she was flowing badly. I found that one of her children had two hours previously met with some slight accident, giving her a severe fright, which was followed by an increase of the menstrual flow for a short time. She had no further difficulty until May 27th, when the menses returned; the period lasting three days. The third day was marked by severe pains, she describing them as like labor pains and quite as severe, accompanied by considerable hemorrhage. June 10th the menses appeared again, and as before—the third day for two or three hours, she had very severe pains, even more severe than on May 27th. She described them as being as hard as any labor pains she ever experienced. I visited her June 20th and learned of the peculiarities of the last two menstrual epochs. Patient was now pale, anemic and very nervous. A vaginal examination revealed a hard, globular body resting in the vagina, but so much smaller than I expected the uterus to be that at first tumor was suspected. Careful examination, however, failed to locate the os uteri nor could the fundus be found in its normal position. For the first time uterine inversion suggested itself. I could
make nothing else out of it and inversion meant so much in the condition patient was now in I decided to consult Dr. Peebles, of Lincoln, who promptly responded to my telegram the following morning. Together we visited the case and uterine inversion complete was verified. We decided to have her removed to Mead where it would be more convenient to give her proper attention and await the passing of the next menstrual epoch, which was now near at hand. Patient was brought to Mead the following day. The menses returned July 8th, lasting four days. Rest and vaginal injections of hot water carried her through with slight loss of blood, but a thin mucus discharge was quite profuse. July 17th, Dr. Peebles, Dr. Dixon of Mead and myself visited her and active measures were taken to produce reversion. The means adopted were persistent, forcible pressure on the fundus uteri by means of a rectal bougie. All our efforts by this method proved an absolute failure; no impression on fundus or os could be made. We then decided to try constant pressure by means of rubber bags inflated with water. It was with extreme difficulty at first that she could retain the bags, due to sensitiveness of the parts. By gradually filling the bags a little more each day she soon had no difficulty to retain them during the day but could not tolerate them but a short time while in the reclining posture, so they were removed at night that she might obtain rest. Bag was carefully cleaned and replaced in the morning, patient attending to this duty herself. This method of pressure was continued without appreciable effect except that patient's general health improved, until August 15th. On the evening of the last mentioned date I learned that for some two hours that afternoon she had suffered quite severe pains resembling after-pains and which she attributed to too much pressure from the support. Thinking she had distended it too much she removed it and obtained relief from the pains. This looked like the long wished for relaxation had commenced and she was advised to tolerate the bags if possible. Examination revealed no change. After this the pains came on regularly every afternoon at about the same hour. The evening of the 5th day of these recurring pains I detected about the region of the ring of Bandle a hard encircling band which a sweep of the finger proved entirely encompassed the body of the uterus. I was now satisfied that reversion was simply a question of time. Every day she was visited, sometimes finding the band a little lower, and sometimes no change perceptible. On the whole, however, a steady advance downward, until the evening of August 25th, when I found the fundus mounted to its normal position and the os presenting: os large, patulous, and out of all proportion to size of body of uterus. It was with extreme gratification that I was enabled to announce to the patient and friends that we had won.

My conclusions are:

First. The cause of post-partum hemorrhage at last labor was undetected partial inversion of the uterus by depression of the fundus.

Second. That inversion was probably completed during the severe paroxysms of pain at the menstrual epochs of May 27th and June 10th.

Third. That reversion or restoration occurred by dilatation of the os and gradual folding outward of the cervix and body of the uterus until the whole passed through the os.

Fourth. That possibly incomplete inversion of the uterus is a more frequent cause of post-partum hemorrhage than we think.

DISCUSSION.

Dr. Leisenring: I am sorry I did not
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hear all the paper; I wanted to hear that particularly, but I got in rather late. As much of it as I have heard, I agree with the treatment with the exception that I would have used a little more pressure when I first discovered that the uterus was in that condition. In one or two cases I have had; by constant pressure, that is, compressing the uterus and then using the finger and pressing it up, I succeeded by persisting for probably half an hour at a time.

I would ask the doctor if he placed his patient under the influence of chloroform?

Dr. Hall: No sir.

Dr. Liesenring: I think that was a mistake. I think the patient should be chloroformed and placed upon her back, hips elevated, and by pressure and compression, my impression is that the uterus would have been reduced; at least, that has been my experience. If not under persistent pressure and compression, then I would have pursued precisely the same course you did, using hot water bags and compression. But my impression is, that if compression and pressure had been used and the patient chloroformed, you would have succeeded.

Dr. Peebles: In this particular case, the uterus was very tense and hard, and the doctor had this plan carried out, I think, for from two to two hours and a half without any yielding of the cervix, whatever, and until he became satisfied that the patient would be exhausted before reduction could be accomplished.

Dr. Peabody: I think Dr. Liesenring did not hear all of this paper. This is not a case that had been overlooked for several months. This was a recent case, wasn't it? These cases—I have never had one, but I have had them where by the use of the hand in removing the afterbirth, or something of that kind, we would get unlooked for results. I think, in this case, by persistent pressure for hours you could have gotten the result desired. In long-continued cases the treatment must be like this case—long continued.

——— I want to ask whether or not the ergot might not have been the cause of this thing? I question the propriety of giving ergot. I have never had a case where I felt the necessity of giving it. I have had profuse post-partum hemorrhages, but I did not give ergot.

Dr. Liesenring: I would say, in answer to Dr. Peabody's remarks, that a case just occurs to my mind which occurred a number of years ago. I was practising at that time in the rural districts of Pennsylvania, and was called one day to see an old lady who said there was something wrong and had been for months. She was the wife of a farmer, who was in good circumstances as are most of the Pennsylvania German farmers, but he was rather stingy, and the consequence was that this poor woman was running around with procidentia of the uterus, and had been for months, attending to her domestic affairs. I made an examination and you may well imagine my surprise. I said, "My dear madam, have you been going around in this condition for three years or more?" "Yes, sir." "Do you know what it is?" She said she suspected what it was, but did not know. The whole organ was excoriated, as were also the thighs. I immediately placed her on her back, got some warm water—we didn't know much about antisepsis, at that time—cleansed the parts thoroughly, and took hold of the uterus with both hands and compressed it very thoroughly, until I was able to compress it with one hand; then just took my finger in that position (indicating) at the fundus and persisted with pressure; I don't remember the length of time, but in a short time I began to find the womb yielding and finally was comparatively reduced by using a pessary for a
short time; and using injections of Monsel’s solution, about three parts of Monsel’s solution to one of water. Persisting in that treatment for some months she had no further trouble.

That was a case that had to be persisted in for a good long while, but finally gave way to treatment.

Dr. Peabody: I congratulate the doctor on his success.

Dr. Mansfelde: The very best way, gentlemen, is to be thorough in your treatment.

Dr. Hall: I wish to say nothing in discussion of the paper, further than in this case there was a valvular lesion of the heart.

SECTION ON OBSTETRICS—REPORT ON PROGRESS.*

By H. B. Lowry, M. A., M. D.

Mr. President, Ladies and Gentlemen:

In my report on obstetrics, I shall make no attempt at completeness. As a general practitioner it could not reasonably be expected that I should notice in detail and critically all that has been done in a field so extensive and varied. I shall endeavor, as briefly as may be, to indicate to you only some of the more important subjects that have latterly occupied the attention of the obstetric world. I remember on one occasion when talking with Dr. Ringer in his laboratory at University college, London, I made some reference to a new edition of his work on Materia Medica. He said to me, “I have done nothing with my book for ten years, new and enlarged editions come out periodically, but this is done without even so much as my

*One year ago I entered my protest against the “review business” being forced upon the chairman of a section, and recommended that he be allowed to read a paper on any subject coming under his branch. I am gratified to know that this Society has at this meeting adopted, with some slight alterations, the suggestions then made.

recent inquiry has developed much interest in the physiological aspect of pregnancy. The position of the body, the nature and influence of the urine in pregnant women are among the more important that have occupied attention. But interesting as they are I have only time to refer to the physiological investigations of Issmer who has made a study of the time of conception and the duration of pregnancy. This is a matter of no little obscurity, owing to the difficulty of fixing accurately the date of fertile coitus. Skeptical people will doubtless make some mental reservations in accepting his conclusions as being in every way trustworthy.

In 464 cases Issmer found that 72 per cent. of them conceived during the first half of the inter-menstrual period and were of shorter duration than the 28 per cent. who conceived during the latter half of the inter-menstrual period. The average duration from the last menstruation he found to be 278 days, and from conception 268 days. The average from the date of conception is shorter than is usually given. Dr. Reid in his well known table of 43 cases gives an average of 275 days, and Loewenhardt in 518 cases of conception by single contact gives an average of 272 days. The longest gestation in Issmer’s cases was 304 days from conception. This difference is
bore out by other observers as well as by comparative physiology.

Physiology seems to have answered another question viz: May sugar in the lying-in woman be a physiological condition? Ney, after exhaustive studies, published in the *Archives of Gynaecology*, found sugar present in the urine of 78 per cent. of lying-in women. Only those with large and well developed breasts which were tense and full had sugar in the urine. All causes which prevented suckling were immediately followed by sugar in the urine. As sugar occurs in puerperal women who are best developed and healthiest Dr. Ney concludes that in such cases glycosuria is a physiological condition.

The children of women who had sugar in the urine thrived better than those whose mothers had no glycosuria. Dr. Ney regards sugar in the urine under such conditions as simply an effect of mechanical conditions: the pressure in the milk ducts being higher than in the blood vessels osmosis of sugar takes place through the vessel walls.

This condition of things is not to be confounded with diabetic women properly so-called, who become pregnant. Gaudard estimates that about one-third of such women abort. Indeed the occurrence of pregnancy in diabetic patients brings with it even greater risks. More than 50 per cent. of the cases die soon after delivery, and 40 per cent. of the children die.

The heart.—The condition of the heart has occupied the attention of the obstetricians of late, both from a physiological and a pathological standpoint. Not only in life insurance may we get important hints by taking the pulse both sitting and standing. As in pregnancy there exists ventricular hypertrophy of the heart, it has been suggested that one of the signs of pregnancy ought to be a pulse equally rapid either sitting or standing. Some experiments have been made but have only in part borne out this theory.

Cardiac diseases without adequate compensatory hypertrophy may sometimes be the cause of abortions. Dr. Jones in the *British Medical Journal* of recent date gives an account of three patients suffering from heart disease, who having conceived aborted, but becoming pregnant afterward went to full term, receiving treatment meantime for their cardiac troubles.

In my own practice I have known a young woman with such a bad mitral stenosis that her legs and feet would remain swollen for weeks at a time. She could go up stairs only with the greatest inconvenience and although this condition of things remain much the same she has been twice confined at term and borne two healthy children. During labor she ran great risk of fatal asystolism, otherwise her accouchements were entirely satisfactory. She has, however, been advised by her medical attendant to bear no more children.

Ordinary valvular disease of the heart is not a serious complication of pregnancy and confinement, for in addition to the compensation that usually already exists, the ventricular hypertrophy of pregnancy still further strengthens the heart. When death does occur in these cases it is usually due either to want of compensation or, what is more usual I apprehend, to fatty degeneration.

The treatment recommended in these cases is: During pregnancy hygienic measures together with the exhibition of tonics. Chloroform during labor and bloodletting if the breathing be embarrassed. In bad cardiac cases, and especially when pulmonary complications exist, the condition is a grave one and must be carefully considered. An early abortion is the safest thing and is to be recommended in the absence of any special reason why it should not be.

Vomiting in Pregnancy.—In regard to the vomiting of pregnancy I presume many will agree with Balin, who is of the opinion
that the vomiting is due to a neurotic disturbance developed in direct causal connection with conception, and that uterine displacements have nothing to do with the conditions.

Gueniot, believing that the vomiting is due to irritation transmitted from the uterus to the sympathetic system and reacting on the stomach, directs his treatment (1) to lessen the morbid excitability of the uterus; belladonna, cocaine, morphone, vaginal injections, cauterization and dilatation of the cervix are employed: (2) the excitability of the sympathetic system is allayed by prolonged baths; bromine, cold to the spinal regions, etc.: (3) great attention is paid to diet. Solid food is entirely dispensed with and alkaline waters, as Vals and Vichy the only drinks taken. Kaltenbach believes that many cases of hyperemesis gravidarum are due to a neurotic disposition—an exquisite hysteria which must be treated by physical means. In support of this theory he cites a case in which the passing of a bougie into the stomach, with the statement to the patient that the source of her trouble was now gone, effected a cure. Of course I do not for a moment question the veracity of the gentleman in regard to his one particular case, but am somewhat pained at the flippancy with which he seems to regard a really very serious condition, nor from most heartily agreeing with the opinion of Cohnstein, and which Kaltenbach has entirely overlooked. It is this: he does not distinguish between hysterical vomiting and sickness due to gastric or intestinal disturbance. True vomiting when the tongue is clean and moist—often the first sign of pregnancy—may be counteracted by anti-hysterical treatment, but the treatment must be very prompt; the time for any benefit to be derived from it being long passed when the physician is appealed to for relief, and now the constant vomiting in this neglected case of purely neurotic origin, has set up some disorder of the gastro-intestinal canal, and the doctor who would simply put a tube in the throat and tell the patient to now believe herself well should at once be relegated to the fold of the faith-cure, for he certainly deserves no place in the confidence of the Nebraska State Medical Society.

Gunther has treated five stubborn cases of hyperemesis by electricity with good results. The anode, covered with a sponge, is placed at the neck of the uterus, the cathode, a metallic plate 4 to 6 inches square being held over the eighth and twelfth dorsal vertebra. A current of mild intensity two to five milliamperes should be employed for seven to ten minutes. Vomiting usually vanishes after the fourth seance.

Routh calls attention to an iodine paint which he has found to be of the greatest value in the treatment of severe vomiting of pregnancy. The paint is composed of equal parts of iodine, iodide of potassium, spirits of wine and water; it is applied through the speculum by rubbing the cervix and the vaginal end of its canal with a small piece of cotton wool, soaked in the solution. The author has given this treatment a trial for seven years, and has so far never failed to cure the morbid condition.

In this, as in so many other branches of obstetrics, much more has been attempted than accomplished, and where there is such a diversity of opinion—among the doctors, verily who shall decide. Long lists of cures are wrought by such different lines of treatment that the argument has been adduced by certain obstetricians that the whole matter is a veritable neurosis, and moral treatment is the only panacea. Following right after this consideration of vomiting of pregnancy, or properly a most important part of it, is the still vexed question of when to induce abortion. Here, however, rather more unanimity prevails,
and the general concensus of opinion seems to be that when the pulse rises to over 100 beats per minute, or becomes irregular, further delay can but encourage a fatal issue.

_Puerperal convulsions_ has been written upon by a number of able men. Lohlein gives some interesting statistics. Of 325 cases the mortality was about 20 per cent., or about 10 per cent. lower than is usually given in our text-books. These figures almost exactly correspond with the observations of Dr. Jones. The minimum and maximum mortality in Lohlein's cases was as follows: Of primiparae attacked after birth only 11.6 per cent. proved fatal. Of multiparae in whom the onset occurred before delivery, 29.6 per cent. proved fatal.

The opinion of Dr. Auvard that eclampsia if due to a "strike on the part of the organs of elimination," will, I apprehend, find much favor. Of course this opinion does not hold in those rare cases that have their origin in the brain or are reflex. Or perhaps to those still rarer cases of eclampsia that run their course without albuminuria. But that it describes a great majority of the cases, there seems to be a concensus of opinion. Accepting this theory there should be a corresponding advance in the rationale of treatment.

Dr. Galabin (_British Medical Journal_, September, 1892,) shows that at Guys when bloodletting was practiced, the mortality in eclampsia was 30 per cent., and when bloodletting was not practiced only 20 per cent. Notwithstanding these figures venesection holds a place in sedative treatment second perhaps only to chloral, morphyne and the anaesthetics. Of late, not so much is said of veratum veridi, in connection with these cases as there was a year or two ago. Of course, when the seizure comes on prior to delivery, most practitioners will give their attention to the prompt emptying of the uterus.

Granting the correctness of the theory of a "strike" of the eliminating organs, the rational curative treatment would be purgatives, diuretics, and diaphoretics.

In my own experience, this plan of treatment has apparently been successful, although it has never been wholly relied on. The cases that have come in my practice have recovered. They were multiparae attacked before delivery—which as has been shown is the worst class of cases. Two others were primiparae; the seizure coming on after the birth of the child—a class of cases as we have seen which is not likely to recover. In a case of my friend's, Dr. Deck of Bennett, the patient, a primipara was not attacked until seventeen hours after delivery. The case had been well managed and before I reached it the doctor had the patient well under chloral administered per rectum. Upon my arrival elaterium was administered by the mouth together with antipyrin and the patient put into a hot pack which was followed by one of the most profuse sweatings I ever witnessed. There were no more convulsions and the patient made a good recovery.

_Antiseptics._—Antisepsis still occupies the attention of the profession, and a large place in our literature. The two things noticeable is a tendency toward simplicity and the growing in favor of the bi-chloride.

Tarnier and Vegnal, at the Paris Lying-in hospital, have made a series of bacteriological and clinical experiments with a view of ascertaining the best antiseptic substances. Based on these experiments they have reached the following conclusions: That the bi-chloride of mercury—all things considered—is the best, next following being sulphate of copper and carbolic acid, and that the permanganate of potassium occupies a still lower position. These gentlemen think that a vaginal injection is not sufficient, but that the uterus should be gently irrigated almost immediately after parturition.

This subject was exhaustively treated in
the Section of Obstetrics and Gynaecology of the Tenth International Congress. I have only space for a few of what appears to me the most important points. Dr. Galabin, of London, stated that under the use of the bi-chloride in English maternities the rate of mortality had fallen from 10 in 1,000 to 2 in 1,000, but that the greatest gain was in septic fevers which sank in the London General Maternity from 40 to 25 per cent. For vaginal injection 1 to 4,000 is not strong enough, but for the first three or four days about double that strength should be used. In private practice the author thinks the most important part of antisepsis is a most thorough disinfection of the physician's hands. A sublimated glycerine solution of 1 to 1,000 he recommended as being the best for lubricating purposes. In my own practice I have found this very satisfactory.

Slawjaski of St. Petersburg, submitted a report of 52 Russian maternities with more than 7,600 deliveries in which antisepsis had been employed. The author stated that among other things; I, the puerperal morbidity and mortality was decreasing year by year; II, that with careful antiseptic precautions the number of diseases and deaths depends upon a greater or less frequency of pathological, operative and complicated deliveries; III, large maternities under strict antisepsis are more use to the country than small institutions. This sentiment is in accord with that expressed by Dr. Lusk, published about one year ago, where he states that formerly hospitals were the seats of violent outbreaks of puerperal fever, they are now the safest places for women in labor.

In the Emergency hospital in New York, where the results had been most satisfactory, the following precautions were taken: Upon entering, the patient was given a full bath. A rectal injection was given, and the lower abdomen, inner surface of thighs, anus, and groins were scrubbed first with soap and water, then with a corrosive sublimate solution (1 to 1,000). A vaginal douche of soap and water was given, followed by the sublimate solution (1 to 1,000). In operative cases this was repeated before and after the introduction of instruments or hands.

The placenta was expelled by Creede's method, and ergot administered. A douche of corrosive sublimate (1 to 5,000) was given, and in case of high forceps operation, or operation requiring manipulation, as version, the irrigation was carried into the uterine cavity, a vaginal douche being first employed. The external parts were then dusted with the iodoform and covered with a piece of gauze freshly wrung from a corrosive solution (1 to 5,000), outside of that it was customary to place a pad of oakum, which was changed every six hours, and the external genitals at the same time carefully washed. No douches were given during childbed. The temperature seldom reached over 100.

Operative obstetrics and ectopic pregnancies should very properly occupy a share of our attention, but this ground I apprehend will be covered, more or less fully, by papers that are to follow, which relieves me of the necessity, even if I had time, of going into these subjects.

This report, incomplete as it is, I respectfully submit.

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**DOSAGE.**

By Dr. L. A. Merriam, Omaha, Neb.

The Century Dictionary defines dosage as "the act, or practice of administering medicine in doses," and "a dose is the quantity of medicine given, or prescribed to be taken at one time, or within a specified time." If I prescribe a mixture to be taken, a teaspoonful at each time, the commonly understood meaning is that the teaspoonful of this mixture or solution is the
dose of medicine. This popular idea is, however, erroneous. The scientific, professional and correct idea is that the quantity of the mixture, or solution prescribed or given, contains the dose. The excipient or the menstruum is not the medicine, but the vehicle that contains the medicine. When you give a tincture, a syrup, or a fluid extract, the alcohol or syrup is not the medicine but the medium used to preserve and hold the medicine, or render it palatable. When you give a grain of powdered opium, you never know how much of that grain has the power of acting upon the living tissues of the body. And so it is with many other agents used as medicine. The reason for this is, that the substance used has in its composition much inert matter, not capable of exerting any therapeutic action. With several agents used also, there is such a varying quantity of the active principles that one is never certain of the dose given.

A medicine is the agent that has the power of acting when used under proper conditions, and the dose is the quantity that acts. Dunglison says "A dose is the quantity of any substance which ought to form part of a compound medicine, or ought to be exhibited singly to produce a desired effect." Yet this definition is not absolutely correct, as we shall see later. If there is any part of our professional field that needs cultivating, weeding and developing, it is that of therapeutics and I often wonder that so many of our excellent teachers in this field, should still be satisfied with the crude ideas of former days. Therapeutics should be more scientific, more accurate, more positive, and should aim with mathematical precision to obtain definite and exact results. The quantity of a medicine acting upon the vitality of one or more nerve cells is not always the amount given for that purpose, for some are not retained but soon rejected by vomiting, some mix with the contents of the stomach and hence are very slow in being absorbed. Others, though soluble, fail to be absorbed, because absorption is a varying condition. It varies with the condition of the absorbing surfaces, with the density of the menstruum, with the relative fullness or emptiness of the vessels, and with the degree of saturation of the secretions. Remember that absorption and osmosis, though similar, are not identical, for absorption is dependent upon life, or the amount of vitality, while osmosis may exist without either. Nor must it be forgotten that some medicines undergo changes during the time they are en route, or from the moment they enter the body until they reach a point where they can manifest their action upon the nervous system. Then, again, some remedies are eliminated very rapidly, and others very slowly with a supposed cumulative action. Or it may be that the medicine may in time be tolerated in increasing quantities, and I think we have evidence of a condition which may be called saturation, where the medicine given beyond a certain amount is eliminated without having an increased therapeutic action. These are all conditions which may modify the action of a medicament, yet there is one more that needs some explanation, if possible, and that is impressionability.

Holding firmly to the modern scientific teaching that all the so-called forces of this vast universe, including vital force and even life itself, are not only correlative or reciprocally related, but also convertible in accordance with the laws of nature, I affirm that the motions which constitute our physical bodies are susceptible of modification, of being augmented, diminished, transmitted, transformed and decomposed by the actions of medicinal agents and the influence of environing conditions. Life is only an atomic vibration of matter giving rise to particular forms and manifesting itself by functions which are only the
phenomenal expression of vibration, transformed into physical, chemical, mechanical and psychical motions. Disease is a degeneration or reversion of structure to simpler forms, a conversion and complex motions into motions of a lower and more stable order; consequently a loss or diminution of higher and complex motions, by them being transformed into simpler motions. To prevent this reversion or transformation of less organized complex motions, into more organized simpler motions, and to assist in restoring and inciting the normal functions, is the end to be gained by a favorable environment, and the judicious use of medicinal agents. To accomplish this in a scientific manner we should know two things, viz.—The patient to be influenced and the proper medicinal agent to be given, to accomplish the end desired. The medicinal agent used should be a tangible substance of standard strength and purity, whose action upon the organism is clear, definite and reliable. To know the patient is more difficult, for the complex motions which constitute the forces of the body are in no two persons identical, though they are similar. Could we know with mathematical exactness the impressionability of each tissue, then we might sum up the entire impressionability of the patient. We may know the kind of action a medicament may have, but not be able to tell the degree or extent of action of the agent, for no patient is absolutely the same in successive moments; for a prescribed amount that is tolerated to-day, may be rejected or do material harm a few days later. The different stages of life, the temperament, the degree of health, manner of living, customary food, habits and numerous other things may materially modify the impressionability of the patient and force us to the logical conclusion that the degree of impressionability of a patient cannot be determined a priori. This being the true status of the question, we now turn to the more practical consideration of the question of dose. I think there will be no objection to this statement when I say: The therapeutic dose is that portion of a medicament introduced into the body which produces a determined action, and from foregoing statements relative to absorption, elimination, impressionability, etc., the proposition is justifiable that it is impossible to calculate the active portion of any quantity of a medicament whatsoever.

In the treatment of diseases in a rational manner by the use of therapeutic agents, how can we obtain certain desired results and at the same time be sure we are doing no harm to the vitality of the patient, when we are unable to determine just how much of a given agent will exert its action?

Burggraeve, of Ghent, has given us a law that applies to nearly all such cases. It having been determined by the only method possible, viz:—experience, what action a medicament possesses, and what symptoms it exhibits or produces, the initial quantity given should never be capable of producing any toxic effect: hence the wisdom of using medicines that have a definite chemical constitution free from any extraneous matter. These pure and active principals of definite standard strength, should be prepared in the laboratory, rather than compel the stomach and absorbents to pick out the active principals from a mass of crude, imperfect and poorly prepared compounds. I know the profession are said to be very conservative and cling tenaciously to old and established ideas. There are too many in our ranks who fear the developments of modern scientific methods, but I believe the time is not far distant when our leading physicians will appreciate the fact that therapeutics, as usually taught and practiced, is far behind what it should be, and a united effort will be made to place this branch of our art on an equal footing with the art of surgery.
Burggraeve, of Ghent, has said some good things and has done much for twenty-five years to place therapeutics on a scientific basis, and his efforts are only recently beginning to be appreciated. As an illustration, take his idea that medicines should be pure and accurately divided as to quantity, easily soluble that they may be readily absorbed and given in small and frequently repeated doses until the desired effect is obtained. The quantity administered at each set time may need to be increased or diminished or given more or less frequently as the case demands, but the principal or dominant medicament should be continued uninterruptedly until the purpose for which it was given has been accomplished. As an instance of this method, we note the sulphide of calcium and peroxide of hydrogen in diphtheria and the exanthematous diseases, and aconitine and strychnia in all fevers and inflammations.

It is said that Herbert Spencer's Psychology could not be understood when first published in 1855, and it was thirty years afterwards when it first became a textbook in a college or university.

So it seems to be with the therapeutic method of Burggraeve, of Ghent. Frowned upon now by the ablest physicians, misunderstood and unappreciated, Professor Ad. Burggraeve stands to-day without a peer in his therapeutic methods. Though he has been a teacher of medicine and a voluminous writer of ability for more than twenty-five years, yet I have no doubt there are many present who know nothing of his aims of precision, his pure medicines, or his measured doses. To open the subject for your discussion and to hear all objections that you can offer, is the object for which this paper was written, ever bearing in mind that this is not a new pathy or system, but is a twenty-five year old method, not to be used exclusively, but only as a step of progress out of the old paths of poly-pharmacy, and into the clearer sunlight of scientific and rational therapeutics.

I take pleasure in asking your most extended and thorough criticism. You will therefore prepare your strongest bows, your deadliest arrows, and your bravest warriors for the attack.

DISCUSSION.

Dr. Lord: I have been somewhat of a disciple of this method and have carried it in my pocket for the sake of having a little medicine, some little granules made from the alkaloid, and I find it very convenient. I find that they are certain enough and very efficacious. Some of them I have doubted as to their reliability, and I did not know whether the drug was not there, or what was the trouble; but think, however, the trouble was from their insolvability, and the liability of their having cumulative effects, particularly of a class of granules that are made by this Chicago house. They are harder than flint; it takes about three hours to dissolve them. I think, however, it is safe for almost anybody to use them to a limited extent. I do not want myself to fall into the way of using them exclusively. At the same time, I have been feeling my way, and with some of the remedies I have been particularly satisfied, and it is an easy and ready method of giving just what you want.

Dr. Crummer said the teaching in many medical schools, regarding the indications and effects of medicines was misleading. The counterindications were not often insisted upon. Cathartics, especially, were grossly abused by being given when they were sure to do harm. Once a recent graduate had returned from college, whose brother was under his (Dr. Crummer's) care for cerebro-spinal meningitis. The student said "Pap" Allen had advised him that the most important indications in this case were "to keep the bowels open and nourish the patient." Well, we had in this
case obstinate constipation; in fact paresis of the intestinal tract. Laxatives and enemata were without effect, so my young friend insisted on trying croton oil, and really gave it against my protest. The effect was to cause an increased irritation of the stomach to a marked degree, and undoubtedly it aided the fatal termination which followed.

The doctor thought more time should be spent in discussing the bad effects of medicines, and cautions as to their use. From his observation of twenty years he was satisfied that homeopathy owed its standing in this country largely to the lack of care in prescribing by "regular" physicians.

Dr. Christie: I did not expect to say anything on this subject, as I immediately follow; but having profound reverence for the man alluded to as "Pap Allen" I wish to say that he is not responsible for any one who has not brains enough to comprehend a joke that he may inject into his lectures. He was one of the best, noblest and grandest men that ever stood before a class of students. In his lectures upon Materia Medica and Therapeutics he might occasionally inject some such remark as passed by Dr. Crummer.

As to the only way of teaching therapeutics, I acquiesce in the principles that have been generally alluded to. In the first place, we should understand the principles, or the action of the medicament that we are about to prescribe. We should not only understand their action, but we should understand the difficulties for which they are expected to be administered. It makes no difference to me whether a medicament may be given in an alcoholic solution; whether it be given with triturate of milk, or whether it be given with gelatin, or what not; it makes no difference with me, so that I understand the physiological action of the active ingredient contained within the medicament that I prescribe; and that is all there is to it.

Dr. A. S. von Mansfelde: Allow me to offer as my mite to Dr. Crummer's case a few words. I do not think that Dr. Crummer meant to speak in any unkind way of Dr. Allen. But if he did I would enter my protest, because I happened to have the pleasure of sitting under Dr. Allen's instructions for three consecutive terms, and I did have the pleasure of sitting there with Dr. Christie. I wish to say that if there was ever a logical, scientific mind that spoke to the students of the college it was Dr. Allen, but he certainly was not responsible for the conduct of every verdant young man who came to him. You know, we are all in the habit of prescribing large doses and many drugs when we start out in practice, and we finally come down to few drugs and little pills with my friend here. In making this resume of this paper, I wish to say that in his Dosimetric system is some of Wyeth's tablets or triturates, and I want him to tell me where the difference comes in. I am particularly speaking of the fact that these remedies are exactly scientifically correct and are readily dissolved and used, whilst some of these preparations of the Dosimetric fraternity are almost insoluble. We are not quibbling about the method. I question very much the propriety of usingaconitine by itself.

Dr. J. E. Summers, Jr.: I am personally in the habit of using pretty small doses. I have used the dosimetric granules, somewhat, and have been very well satisfied with them. I have used tablet triturates ever since they were first made, and I would not think of practicing medicine without carrying a small paper of those triturates with me. I do not care what you use; only have some medicine that you know is pure, that is readily dissolved, and then know what you want to give. In giving medicine we have too much treating of disease. Treat the patient first. In cases of diphtheria the patient should be
treated and not the disease. You have certain conditions to meet. We give strychnia as a nerve stimulant, we do not care what the case is. It may be diphtheria, or it may be paralysis; I give strychnia until I get the result. I begin with a very small doses, even as small as the one one-hundredth of a grain, and I repeat it every hour, if necessary, hypodermatically, and continue its use until I obtain the desired effects. It is the patient you are treating and not the disease.

And so I use the sulphide of calcium. I use it frequently and am thoroughly satisfied with it. Since I have used the bisulphate of calcium and peroxide of hydrogen in diphtheria I haven't lost a case; not one. I use it until I saturate the system. One person may stand a tenth of a grain every three hours, and another person one quarter of a grain every hour. But I saturate the system in these cases by repeated small doses. For boils I use bisulphate of calcium. You can cure boils with the hyposulphite of soda, and it is as nearly a specific as any remedy I know of; but you have got to saturate the system with it, when you can stop them in a very few hours.

The chief thing is to get these soluble medicines in such form that you can dissolve them in a minute. I have carried those triturates for quite a long time now in my pocket case and hypodermic case, more or less, and use them. I very frequently get the effects of a remedy before a prescription could be sent to the drug store and filled. When you are called to a case, use these remedies frequently until you get the desired results, and treat the patient and not the disease.

Dr. Merriam: No one could be more surprised than I, that our acting president, or vice-president, Dr. Mansfelde, should ask me such a question as he did: Why the Dosimetric system is superior to Wyeth's preparations, and others? I am surprised because the doctor did not appreciate what that paper contained. I use the word "dosage," and define it: but nowhere in that paper will you find one word about the dosimetric system at all.

Dr. Mansfelde: I did not hear a portion of that paper.

Dr. Merriam: I spoke of a method, and some physician, I do not know who it was now, said that he did not advise their use, or that he did not like the idea of using it exclusively. I did not say anything about its exclusive use, but stated expressly therein that measured doses, accurately weighed, and accurately determined, should be used. Wyeth's and Park Davis' preparations are first class when they have eliminated from them all crude matter. When they are pure, are they not measured doses? That is all I said anything about. It is true that the word "dosimetric" means measured doses. I expected somebody would take me up, and I did not use the word "system;" it is only a method. It is the coming method of the next twenty-five years I believe; to use fewer medicines, accurate and divided as to quantity; and the point that I desired to bring in there was, in giving medicine not to give a granule every hour for three weeks, and let your patient run along for six weeks and die or get well; but you commence and repeat these little doses right straight along, knowing what effect you want, and follow it up every ten or fifteen minutes until you get the result you expect. Take for instance, strychnia: start in with it, and follow it up until you get such result as you want; and then give enough afterward to hold it there.

Some remark was made with reference to the Chicago Granule Company and aconitine. I have used preparations from the Chicago Granule Company but I did not like them, and I would not advise you to use them unless they improve them.

E. Fougera & Company, New York,
handle the so-called Dosimetric granules as made and devised by Burggraeve of Ghent; and they are always soluble, absolutely reliable at all times, and the best, and you will be pleased with them the more you use them. I wrote to the Chicago Granule Company once, telling them of the trouble with their medicines and telling them to make them soluble. I have known them to remain in a cup for some hours undissolved.

Some strictures have been placed upon aconitine. You all know, perhaps, as well as I do, that there are various kinds of aconitine. The kind of aconitine that is used by this French Company who manufacture these dosimetric granules handled by E. Fougera & Company, is one peculiar kind: and you run no risk of giving to an adult one of these granules of aconitine, & of a grain, every fifteen minutes following it up every two hours.

These alkaloids are just the same as a knife in the hands of a surgeon: they are arms of precision, when used in the proper manner, that we cannot afford to do without, but are dangerous in the hands of a bungler, just as are the obstetrical forceps in the hands of a quack.

When you come to know these granules you will be pleased with them, and will see what I advocated three years ago: that acute diseases can be jugulated.

IS DRUNKENNESS CURABLE?

By I. N. Pickett, Odell, Nebraska.

My only apology for submitting this brief article is a sincere desire to protect as far as is within my power a class of practice that properly belongs to the legitimate practitioner of medicine. Last year the public was convulsed with excitement by the announcement through the secular press that a cure for drunkenness had been discovered. The leading lights of the medical profession were interviewed by press reporters and their opinions were spread broadcast over the country. The more bold and less conservative wrote articles for leading periodicals, denouncing the so-called discovery in no unmeaning terms as a "fad," and one author asserts with the positiveness of an evangelist that "it may be stated with perfect confidence in the absolute correctness of the assertion, that there is no medicine or combination of medicines that will cure a person of the habit of drunkenness—that is that will destroy his or her appetite for alcoholic liquors." Yet in a few months, territory in which to practice the "Gold Cure" was being sold to organized corporations at enormous sums. A little later pamphlets were issued and scattered broadcast soliciting the aid of the W. C. T. U. in the grand work of suppressing drunkenness, but in effect robbing the honest conscientious physician of his bread. I am of the opinion that we, as practitioners, are in a measure responsible for this state of things. I claim that it is the privilege and duty of each physician to treat and cure every case of drunkenness that is within his territory or that makes application for treatment, and that too on the schedule time of three to four weeks. This may sound like echoes from the corn field, coming as it does from a rural practitioner; but he who makes the effort will be satisfied that the results are not "as sounding brass or a tinkling cymbal." While the number of my cases do not run up in the thousands or even the hundreds, yet they are sufficient to convince me that no man need remain a victim of drunkenness because of the craving for alcoholic liquors. Whether or not the craving for stimulants is a pathological condition of the nerve centers or system, is not a question for present consideration, neither is an explanation of the modus operandi of the agents employed, attempted. But that there is virtue in the
preparation of gold in conjunction with other medical agents is manifest.

I will report but one case out of eight as one is a duplicate of the others with the exception of constitutional susceptibility to the agents employed. J. R. C. aged fifty, made application March 22, 1892 for the cure of drunkenness. Has been a victim of the "drink habit" for thirty years. Craving assumes a periodical form when a debauch is sure to follow. No visceral changes noticeable. Prescribed:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Chloride of Gold and Sodium</td>
<td>grs. xii</td>
</tr>
<tr>
<td>Ammon Muriat</td>
<td>grs. vi</td>
</tr>
<tr>
<td>Strychnia Nitra</td>
<td>grs. i</td>
</tr>
<tr>
<td>Fl. Ext. Cinchona Comp</td>
<td>oz. iii</td>
</tr>
<tr>
<td>Glycerine</td>
<td></td>
</tr>
<tr>
<td>Fl. Ext. Coca</td>
<td></td>
</tr>
<tr>
<td>Aqua Pura</td>
<td>aa oz. i</td>
</tr>
</tbody>
</table>

Teaspoonful every two hours during the day: also give hypodermically 6 gr. nitrate strychnia and tell him to come to the office every three or four hours for hypodermic treatment and also his drinks. March 23, 8:30 a.m. 6 gr. strych. nitr., wine glass full of whiskey; 11:30 a.m. 6 gr. strych. whiskey; 3:30 p.m. 6 gr. strych. whiskey; 5:30 p.m. 6 gr. strych. whiskey.

March 24, 8 a.m. 6 gr. strych. whiskey; 11:30 a.m. 6 gr. strych. whiskey. Did not report for treatment this p.m. March 25, 8 a.m. 6 gr. strych. whiskey; 11:30 a.m. 6 gr. strych. whiskey; 2:30 p.m. 6 gr. strych. whiskey; 5:30 p.m. 6 gr. strych. whiskey; 8:30 p.m. called at my office for a drink which I gave him, also 6 gr. chloride of gold hypodermically. March 26, 8 a.m. 6 gr. strych. whiskey; 11 a.m. 6 gr. strych. whiskey; 2 p.m. 6 gr. strych. whiskey; 5:30 p.m. 6 gr. chloride strych. whiskey, 8:30 p.m. 6 gr. of gold. Is pretty thoroughly intoxicated and accuses me of drugging the whiskey.

March 27, 8 a.m. 6 gr. strych. whis-
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1892--1893.

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Ames, L. S.………………..Brownville
Anderson, D. F.………………..Edgar
Anderson, A. B.………………..Pawnee City
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Campbell, W. C.………………..Creighton
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Daniels, W. J.………………..Fremont
David, J. E. K.………………..Omaha
David, J. C.………………..Omaha
David, B. B.………………..McCook
Davis, Wm………………..Omaha
Dawson, J. O………………..Lincoln
Dayton, W. L.………………..Lincoln
LIST OF MEMBERS.

Deck, M. B...........................................Bennett
Demaree, H. C..........................................Roca
Denise, J. C...........................................Omaha
Dick, F. N...........................................North Platte
Dixon, W. E...........................................Mead
Doan, Ira................................................North Bend
Dodge, S. W..............................Fairbury
Dodson, P. F............................................Wilbur
Donaldson, N. F.................................North Platte
Doty, C. W.................................Cordova
Duckworth, F. E.............................Kearney
Duff, J. B..........................................Cedar Creek
Duncan, J. K. L......................................De Witt
East, J. H..............................Rising City
Easton, C. M........................................Hebron
Eldred, C. E...........................................Wilbur
Englehardt, F........................................Summit
Evans, C. D......................................Columbus
Everett, M. H........................................Lincoln
Ewh, Geo..............................................Talmage
Fall, C. P...........................................Beatrice
Farley, B. F...........................................York
Farleigh, T. J.....................................Johnstown
Fletcher, E. R..................................St. Paul
France, J. M........................................Omaha
French, Viola M..................................Platsmouth
Gafford, C. C......................................Wymore
Gahan, M. J...............................Lincoln
Gairdner, T. M....................................Omaha
Galbraith, W. J..................................Omaha
Gapen, Clark..................................Omaha
Garten, M. H......................................Lincoln
Gibbs, W. S.......................................Omaha
Giffin, R. E......................................Lincoln
Gifford, H........................................Omaha
Ginn, A. P.........................................Omaha
Gooden, W. F......................................Aurora
Grabe, E..........................................Beatrice
Graham, F. A......................................Lincoln
Green, J. L..................................University Place
Gumaer, J. T..................................Blue Springs
Hamilton, H. P..................................Omaha
Harris, R. D......................................Paxton
Harrington, H. E....................................Bertrand
Haggard, J. R......................................Lincoln
Hall, J. H....................................Platsmouth
Hall, J. E.....................................Weeping Water
Hall, J. L.............................................Mead
Haldeman, F. D.....................................Ord
Hart, C. S..........................................Lincoln
Harris, W. J.....................................Beatrice
Hasson, D. W......................................Norfolk
Hasevmer, J. H....................................Louisville
Hayden, F. M....................................Osceola
Hay, J. T..........................................Lincoln
Headrick, C. M......................................Tecumseh

Henry, W. O.......................................Omaha
Hawitt, H. M........................................Friend
Hinz, A. F........................................Carleton
Hildreth, M. L....................................Lyons
Hobbs, P. M.......................................Wymore
Hobbs, W. R......................................Elmwood
Hoge, W. B.......................................Grand Island
Holyoke, E. L..................................Lincoln
Hoover, A. L......................................Lincoln
Hoover, M. A.....................................Kearney
Houghney, I. W..................................Elmwood
Hull, G. H..........................................Kearney
Hull, J. W........................................Brainard
Humphreys, G. L..................................Kearney
Hungate, J. B..................................Weeping Water
Inches, Charles......................................Scribner
James, H. M........................................Nelson
Janss, J..............................................North Loup
Jenks, J. A.........................................Shelby
Johnston, G. W...................................Fairmont
Jonas, A. F........................................Omaha
Jonas, M. H........................................Omaha
Jones, W. D.......................................Rising City
Jones, C. H.........................................McCook
Jones, J. C.........................................Omaha
Kay, Z. L...........................................McCook
Keller, A..............................................Falls City
Keller, A. H.........................................Hastings
Kelly, E. A..........................................Beverly
Kerr, W. B..........................................Wood River
Kerr, W. H..........................................Falls City
King, J. W.........................................Omaha
Kirpatrick, C. F..............................Ashland
Kirpatrick, M..................................South Omaha
Knapp, W. M.......................................Lincoln
La Flesche, Susan.................................Omaha Agency
Laffin, W. H........................................Deloit
Lamb, J. E..........................................Wahoo
Lane, S. M........................................Lincoln
Larimer, J. F......................................Omaha
Lavender, W. R..................................Omaha
Leas, J. S..........................................Chadron
Lee, E. W..........................................Omaha
Leisenring, P. S................................Omaha
Leisenring, H. G..................................Wayne
Line, T. H..........................................Marquette
Line, L. M..........................................Ogalalla
Link, H...............................................Millard
Livingston, T. P..........................Platsmouth
Lloyd, G. F.......................................Hastings
Long, F. A..........................................Madison
Lord, J. P........................................Omaha
Lowery, H. B.....................................Lincoln
Lukens, I..........................................Herman
Lynn, W. H..........................................Hastings
McCabe, N..........................................North Platte
LIST OF MEMBERS.

McClanahan, M. H. ............................ Omaha
McClurg, T. C. ............................... Exeter
McConaughy, R. .............................. York
McCram, W. J. ................................. South Omaha
McDonald, R. C. .............................. Fremont
McKeever, G. E. .............................. Red Cloud
McKenna, L. F. ............................... Omaha
McLean, Jas ................................. Minden
Malick, W. H. ............................... Bloomington
Manary, H. C. ............................... Carleton
Mansfelde, A. S. ............................. Ashland
Manning, C. B. .............................. Lincoln
Martin, E. W. ............................... Fremont
Martyn, D. F. ............................... Columbus
Meredith, G. W. .............................. Ashland
Merriam, L. A. .............................. Omaha
Miles, J. D. ................................. Schuyler
Milnes, G. S. ............................... Litchfield
Miller, J. H. ................................. David City
Miller, J. T. ................................. Holdrege
Mills, E. H. ................................. Kearney
Mills, G. M. ................................. Kearney
Milroy, W. F. ............................... Omaha
Mingus, F. M. ............................... Mingus
Minton, E. W. ................................. Oakdale
Mitchell, T. E. .............................. Columbus
Mitchell, A. R. .............................. Lincoln
Moore, R. C. ................................. Omaha
Moore, R. L. ................................. Lincoln
Moore, J. C. ................................. Omaha
Morris, F. S. ............................... McCool Junction
Morris, W. G. ............................... Lanham
Mosshart, C. ............................... Chester
Muir, D. H. ................................. Lincoln
Mullins, Chas. L. ........................... Gretna
Naulteus, A. A. F. .......................... Hastings
Naulteus, F. ................................. Hastings
Neal, W. T. ................................. Peru
Neebit, A. D. ............................... Tekamah
Newhouse, M. B. ............................ Hickman
Norris, U. H. ............................... Greenwood
Norton, C. M. ............................... Lincoln
Nye, F. H. ................................. Plainview
O'Connell, J. M. ............................ Ponca
Owen, F. S. ................................. Omaha
Oxford, Chas ............................... West Point
Paddock, J. A. .............................. Wilbur
Panter, S. G. ............................... Dorchester
Parker, A. A. ............................... Omaha
Parkhurst, W. H. ........................... Dunbar
Patterson, E. L. ............................ Odell
Peabody, J. H. .............................. Nebraska
Peabody, J. D. .............................. Omaha
Peebles, G. H. .............................. Lincoln
Person, S. ................................. Stanton
Perkins, M. A. .............................. Trumbull
Pickett, I. N. ............................... Odell
Pollard, J. A. ............................... Nebraska
Porter, J. J. ............................... Kearney
Pritchett, G. L. ............................ Fairbury
Protzman, W. ............................... Lincoln
Race, W. F. ................................. Kearney
Ralph, J. B. ............................... Omaha
Rankin, T. B. ............................... Rushville
Ray, A. R. ................................. Fairfield
Rebert, M. A. ............................... Omaha
Reynolds, W. F. ............................ York
Ricketts, M. O. .............................. Omaha
Robinson, A. V. ............................ Louisville
Robinson, E L. ............................. Central City
Robinson, W. C. ............................ Clarks
Root, E. T. ................................. Exeter
Rosewater, C. .............................. Omaha
Ross, R. R. ................................. Nebraska City
Ross, W. L. ................................. Omaha
Sanders, J. W. .............................. Broken Bow
Salter, F. G. ............................... Dannebrog
Schaufelberger, T. J. ........................ Hastings
Schug, F. J. ................................. Columbus
Sears, E. A. ................................. Decatur
Shidler, G. W. .............................. York
Shields, W. D. .............................. Holdrege
Shoff, Franklin ............................. Axtell
Simmons, Geo. H. .......................... Lincoln
Smith, E. ................................. Burghard
Smith, E. H. ............................... Fullerton
Smith, E. L. ................................. Shelton
Smith, G. L. ................................. Weston
Smith, L. B. ................................. Fremont
Snowden, C. A. ............................. Davenport
Somers, A. B. .............................. Omaha
Spaulding, S. K. ........................... Omaha
Stanbury, D. C. ............................ Stockham
Stanhope, R. ............................... Lincoln
Stapleford, A. D. .......................... Campbell
Stephenson, W. J. .......................... Winnebago Agency
Stewart, M. ................................. Vesta
Stewart, A. E. .............................. Cedar Bluffs
Stone, I G. ................................. Wahoo
Stone, M. W. ............................... Wahoo
Stone, R. M. ............................... Omaha
Stout, John ................................. Pender
Strong, Mary ............................... Omaha
Summers, H. S. ............................. Norfolk
Summers, J. B. ............................. Bloomington
Summers, J. E. Jr. .......................... Omaha
Sutherland, J. L. .......................... Grand Island
Svenson, E. O. .............................. Omaha
Sweatman, J. M. ............................ Omaha
Tanner, E. ................................. Battle Creek
Taylor, S. B. .............................. Blair
Thompson, J. W. ........................... Strang
LIST OF MEMBERS.

Thompson, T. D. ................. West Point
Tilden, Geo. .................... Omaha
Underburg, E.C. ............... Stanton
Wade, J. T. ..................... Arlington
Waiden, D. A. ................. Beatrice
Walton, M. W. .................. Beatrice
Warnock, T. M. ............... Liberty
Watson, C. ...................... Nebraska City
Watson, E. G. .................. Friend
West, B. F. ..................... Nelson
White, W. S. ................... Palmyra
Whitmored, B. F. ............. Omaha
Whitten, E. M. ................ Nebraska City
Wiese, H. G. ................... Omaha
Wilcox, W. P. ................. Omaha
Wilson, D. S. .................. Fairbury
Wilson, W. H. ................ Table Rock
Williams, J. ................... Kenesaw
Wilkinson, G ................... Omaha
Winnett, H. J. ................ Lincoln
Womersley, E. E. ............. Omaha
Woodard, D. S. ............... Hampton
Woodward, Ada M .............. Milford
Woods, Royal .................. Shickley
Wright, S. A. .................. Pawnee City
Zellers, M. T. ................ Hooper

NON-RESIDENT MEMBERS.

Barton, L. O. .................... Cal
Carter, James .................. Red Oak, Ih
Dittebrant, C. B. .............. Summerville, Ore
Gafford, W. G .................. Tarkio, Mo
Garver, J. E. .................. Leeds, Ih
Gruwell, W. ..................... Independence, Ore
Harrigan, C. P .................. Denver, Col
Huddleston, R. H .............. Barlow, Fla
Linn, W. I ....................... Iola, Kan
Macrae, D ....................... Council Bluffs, Ih
Noxon, D. C .................... Bloomingburg, N. Y
Rawlins, J. W .................. Washington, D, C
Sowers, A. H ................... Denver, Col
Strader, H. W .................. Sacramento, Cal
Voss, T. W ...................... Monclara, Mexico
Wait, J. B ...................... Medford, Ore