In this case I made a double incision, the two incisions being about 4 mm. apart, and I drew a bit of iris into each wound. I did this because a single antero peripheral adhesion of the iris would be insufficient to cover the peripheral rupture.

The case recovered without untoward symptoms and was perfectly well 7 months later, at which time I last saw him.

Objection to the operation may be offered on the plea of possible sympathetic mischief from dragging, but as the operative procedure does not restore the ruptured nervous connection this danger is problematical, if not chimerical.

DISCUSSION.

DR. G. W. ALLYN, Pittsburgh: A man 47 years of age who had lost his right eye by a former accident came for treatment of his left and only useful eye.

A fragment of steel had struck the center of the cornea a glancing blow, cutting outward and well into sclera. Through this wound a ribbon of the iris detached from the outer third of its attachment protruded as a loop. Hoping to preserve a central pupil I carefully cut the protruding iris, leaving the ends in the wound. The eye healed in time. When ready to resume his work a glass correcting the astigmatism gave a vision of $\frac{20}{20}$.

At the end of one year I find the astigmatism less and the vision unimpaired for all of his work, parts of which are very exacting.

SECTION OF STATE MEDICINE, 1891.

Chairman, J. D. Plunkett, Nashville, Tenn. Secretary, Benj. Lee, Philadelphia, Pa.

FIRST DAY.

The Section met at the Columbian University, Washington, D. C., at 3 P.M. There were present and registered during the session

John H. Rauch, Springfield, Ill.
N. S. Davis, Chicago, Ill.
A. N. Bell, Brooklyn, New York.
J. B. Lindsley, Tennessee.
C. G. Comegys, Cincinnati, O.
Charles McIntyre, Pensylvania.
M. G. Motter, Lancaster, O.
G. H. Rohé, Baltimore, Md.
J. Harvey Reed, Mansfield, O.
Gustavus F. Franklin, Chillicothe, O.
D. F. Lincoln, Geneva, New York.
W. Wyman, U. S. M.-H. S.
T. A. Foster, Portland, Me.
C. W. Chancellor, Baltimore, Md.
C. A. Lindsley, New Haven, Conn.
Benj. Lee, Philadelphia, Pa.
A. L. Gihon, U. S. Navy, Brooklyn, New York.
J. T. Reeve, Appleton, Wis.
J. Bochran, Montgomery, Ala.
C. O. Probst, Columbus, O.
J. N. McCormack, Bowling Green, Ky.
G. S. Franklin, Ohio.
J. F. Hibberd, Richmond, Ind.
J. T. Motter, Georgetown, D. C.
Charles H. Shepard, Brooklyn, New York.
B. O. Reynolds, Lake Geneva, Wis.
W. C. Briscoe, Washington, D. C.
H. F. Lyster, Detroit, Mich.
J. H. Hamilton, Richford, Vt.
D. J. Jennings, Cleveland, O.
E. A. Gibbs, Washington, D. C.
Geo. Purviance, U. S. M.-H. S.
D. Sinste.
Geo. Homan, St. Louis, Mo.
John H. Fulmer, Quakertown, Penn.
Frank Ball, Lock Haven, Penn.
A. P. Hull, Montgomery, Penn.
Geo. W. Jenkins, Kilbourne City, Wis.
Lawrence F. Flick, Philadelphia, Penn.
Robert Selden, Catskill, New York.
H. W. Thayer, Corry, Penn.
O. F. Shelden, Lyons, New York.

In the absence of the chairman, Dr. J. D. Plunkett, Dr. John H. Rauch, was, on motion of Dr. J. Berrien Lindsley, called to the chair.

The address of the chairman being necessarily passed over the report of the Committee on School Hygiene was read by Dr. D. F. Lincoln, Chairman of the Committee. Dr. Lincoln prefaced his report by the statement that it was mainly synoptical and presented only such results as all the members had been able to agree upon. Several of the members of the committee had prepared papers on the special subdivisions of the general subject which had been assigned them respectively, and were present to read them as supplementary to the report.

At the conclusion of the reading of the report, Dr. Lincoln presented a paper entitled "Remarks on the Construction of School Houses."

The report and paper were declared open for discussion.

Dr. Gihon assented to the propositions laid down by Dr. Lincoln in the main. He considered the reference of the speaker to the hygienic defects of the hall in which the meeting was in session, especially well timed. This was a building of modern construction, erected at a lavish expense for the express purpose of a class or school room, and yet as had been pointed out, its lighting was execrable, and as he had discovered during the reading of the paper its acoustic properties were still worse. With reference to the strictures passed upon natural ventilation, *i.e.*, by means of windows, he was not so thoroughly convinced. He had when in charge of a Naval School adopted the expedient of placing a four inch board under the edge of the lower sash, thus allowing an upward current of air to enter at the junction of the upper and lower sashes, and had found that ventilation could be quite satisfactorily secured in this way without creating dangerous drafts. It was objected to this that it only furnished a means for introducing fresh air and did not provide for the escape of the foul air.

Dr. R. Harvey Reed replied that actual obser-

vation of an opening created in this way, showed that there was an alternation of inward and outward currents. The air would enter for a few moments and then pass out for a similar length of time.

He considered that the foul odor noticed on entering an ill-ventilated school room was not in any sense dependent upon or to be taken as a measure of the amount of carbon dioxide in the air of the room. It depended on sulphuretted hydrogen, carburetted hydrogen and organic filth resulting from perspiration and respiration.

Dr. M. G. Motter, of Lancaster, Pa., suggested that, in the same way that ventilation could be obtained by the four inch board under the sash, it could also be obtained by having two panes of glass so adjusted on an ordinary sash that the air could pass freely in and out between them. He inquired whether inspection of schools was not a proper function of the Health Commissioner of a city.

Dr. C. A. Lindsley held that even though the air from a window raised with the four inch board entered with an upward direction, its density compelled it to fall upon the heads of those near the window before admixture with the general air of the room.

Dr. McIntire agreed with Dr. Reed that the odor of the room in no way depended upon the presence of carbon dioxide, but upon the organic impurities, and that on the other hand the amount of carbon dioxide present, could not be accepted as a test of the impurity of the air.

Dr. Lincoln remarked, in reply, that undoubtedly emanations of various kinds and of all kinds from the human body contributed to the foulness of the atmosphere of a school room, but that where carbon dioxide was found in excess, as a product of respiration, it indicated necessarily the presence of other impurities, also products of respiration and other excretory processes which are extremely difficult to detect and to determine. The value of the determination of the percentage carbon of dioxide, therefore, was that of a general indicator of impurity.

Dr. Chancellor considered it of quite as much importance to provide special means for the expulsion or exhaustion of the foul air, as for the introduction of the fresh. Two bodies cannot occupy the same space at the same time. Unless the foul air is first removed, the fresh air cannot enter. In cold weather the pure air should be introduced warm; the outer air at a freezing temperature should not be brought in.

The difficulty of obtaining a pure outer air in crowded centres of population is not sufficiently appreciated. In these days of rapid transit why should we not establish our public schools in suburban districts, where there is an abundance of pure air, and furnish proper facilities for the pupils to reach them.

Dr. Lincoln pointed out the extensive character of the work assigned the committee, stated that it did not by any means consider that it had yet accomplished this work, and in the name of the committee requested its continuance.

On motion, this request was unanimously acceded to.

The committee thereupon continues as follows, to report next year:

Committee on School Hygiene.—D. F. Lincoln, Geneva, N. Y., Chairman; Geo. H. Rohé, Baltimore, Md.; J. G. Pinkham, Lynn, Mass.; W. L. Schenck, Osage City, Kansas; R. Harvey Reed, Mansfield, Ohio.

Dr. Rauch requesting to be excused from the duties of the chair, Dr. A. H. Gihon was, on motion, called to its occupancy.

Dr. Gihon inquired whether the roll of the Committee on State Medicine had been called, and stated that it had been customary to do so. The roll was therefore called, and it was found that but five members out of forty-two (two of the committee being deceased) had registered in this Section. Further discussion of the subject was deferred until after the reading of the papers.

Dr. R. Harvey Reed of Ohio then read his paper entitled "Original Investigations on the Heating and Ventilation of School Buildings." This paper was accompanied by the exhibition of a large number of charts illustrating the following points from actual and accurate observation:

1. Date and time of day inspection.
2. Name of building and room.
3. Number of cubic feet of air in room.
4. Number of pupils present.
5. Outside temperature.
6. Temperature of room at levels of head, feet and ceiling.
7. Humidity outside.
8. Humidity in room at levels of head, feet and ceiling.
9. Kind of heating apparatus in use.
10. System of ventilation employed.
11. Number of cubic feet of fresh air supplied and of foul air discharged per hour.
12. Estimation of amount of carbon monoxide present in the air of the room.
13. Estimation of the amount of carbon dioxide present in the air of the room.
14. Consideration of the amount of organic matter present in the air of the room.
15. Bacteriological examination of the air of the room.
16. Miscellaneous remarks and suggestions.
17. Conclusions.

The paper of Dr. Geo. H. Rohé, member of the Committee on School Hygiene, was then read by the author, the title being "The School Sanitary Inspector; His Qualifications, His Duties, and His Powers."

The paper of Dr. W. L. Schenck, a member of

the same committee, on "The Personal Hygiene of School Children," was next in order. In the absence of the author, the secretary read an abstract of the paper which had been prepared by the Chairman of the Committee, Dr. D. F. Lincoln. The subjects embraced were Physical Training, Study, Time and Amount; Recess and Location, Instruction in Hygiene, by Whom and How to be Taught, and the Prevention of Contagious Diseases.

The Secretary read a telegram from Dr. Octavius A. White, who had been announced to open the discussion on this subject, stating that illness prevented his presence. Dr. Gihon therefore called upon Dr. N. S. Davis, as the oldest member of the Section, to take his place.

Dr. Davis spoke in terms of high commendation of the industry displayed in the preparation of the report and the various supplementary papers, especially the tabular work of Dr. Reed's paper.

The period of childhood was certainly that in which the greatest results could be accomplished by proper hygienic influences. Could we have such influences in active operation in school as well as at home, it is not too much to hope that nearly all of the defects which we call hereditary could be eliminated from our people in the course of a few generations. It should be the especial duty of the physicians to instruct the heads of families in which he is the medical adviser in the laws of health, especially as regards growing children.

Dr. Cochran being called upon, said that he had listened with amazement to the proposed qualifications for school inspectors. Certainly it would be a long time before it would be possible to inaugurate such a system in his part of the country. He could only express his gratification at what had already been accomplished by the gentlemen who had read the papers.

Dr. Hibberd described the condition of the country school house of his early days, in which lack of sufficient introduction of fresh air was not a noticeable feature.

Dr. Lyster, of the Michigan State Board of Health, spoke with regard to that portion of Dr. Reed's paper which referred to the Smead system approvingly. His board had been deeply interested in the study of that system in numerous educational buildings in their State. So far as it was associated with a process for dessicating fæces, they had been compelled to report adversely upon it. When disconnected with any such process, and used simply for the introduction of pure warm air and the exhaustion of impure air it certainly worked admirably.

Dr. McCormack, Secretary of the State Board of Health of Kentucky, while deeply interested in so much of the papers as he had been fortunate enough to hear, and commending their purpose, coming as he did from a Western State, felt that the suggestions were many of them such as could only be successfully carried out in the land which we name Utopia.

He moved that the reports and papers be referred to the Association and the committee continued. It was carried.

Dr. McCormack stated that a resolution was passed in the Association at the morning's session, calling upon each Section to appoint a committee to confer with similar committees from the other Sections to consider the subject of perfecting the organization and improving the work of the Sections.

He therefore moved that the chair appoint a committee of three for this purpose.

The motion was carried and the chair appointed Drs. R. Harvey Reed, A. N. Bell and J. T. Reeve as such committee.

The Section then, on motion, adjourned to meet at the same place on Wednesday, May 6th, at 3 P. M.

SECOND DAY.

The Section convened at 3 P. M., May 6, 1891, pursuant to adjournment.

Dr. J. Berrien Lindsley of Nashville, Tenn., the oldest ex-chairman present, was, on motion, called to the chair.

Dr. N. S. Davis of Chicago, Ill., then presented his report as chairman of the Committee on "Meteorological Conditions of the Atmosphere and Their Relations to Coincident Prevalence of Disease." The report was founded on an immense number of careful meteorological observations, and sanitary and mortuary returns, showing much faithful and persevering labor. It drew attention to the apparent influence of the presence of ozone and peroxide of hydrogen in the atmosphere in diminishing the amount of albumenoid impurities. The alternate prevalence of typhoid fever and pneumonia was adduced in favor of this theory. A considerable portion of the report was devoted to the consideration of the influence of the presence of epidemic influenza, in increasing the frequency of many other diseases, such especially as pneumonia, acute bronchitis, typhoid fever and diarrhœal affections.

The report was listened to with deep interest. Discussion being called for, Dr. Flick, of Pennsylvania, considered that a serious source of error existed in all our statistics of influenza, from the fact that many cases of pneumonic complications were reported as pneumonia, which, when the symptoms were carefully sifted, could not be maintained to be so. It was a special condition peculiar to influenza, in which localized foci of inflammation were found distributed throughout the lung tissue. The same might be said of the diarrhœal complications. Strictly, all of these cases should have been returned as influenza.

Dr. Farrington, of Ireland, who was present

by invitation, drew attention to the somewhat remarkable fact, that the statistics of influenza in his country showed that this disease made its appearance with them at about the same time that the earlier cases were reported in America.

Dr. Davis was fully aware of the errors liable to creep in from false diagnosis, as referred to by Dr. Flick. These liabilities, however, existed at all times and in all places. They were not confined to times of epidemic or to certain cities. His own impression was very strong that, during the prevalence of an epidemic, and especially one of such an affection as influenza, which manifested itself in so many different ways, the danger was rather that other affections should be falsely designated as cases of the prevailing disease which was uppermost in every mind, than the reverse. The same remarkable simultaneousness of appearance observed by the gentleman from Ireland, on the two sides of the Atlantic, was observable in different sections of our own country.

In conclusion, Dr. Davis requested to be excused from a further continuance of the self-imposed labor which he undertook at the meeting at Newport, in the preparation each year of this report, feeling that his declining years and strength would not permit him to devote the necessary time and energy to it. The Secretary remarked that whatever of physical abatement of force and diminished elasticity the reader of the report might be personally conscious of, these conditions had certainly not in the slightest degree reached his mental vigor. He had been in doubt whether most to admire the great value of the report or the amount of labor which had been expended in its preparation. It was, however, due to Dr. Davis that his request should be granted, and in seconding it, he also wished to move a special vote of thanks to that gentleman for his services in connection with the Section. The motion was carried. Dr. Davis feelingly acknowledged the compliment, and proceeded to sketch briefly, for the benefit of those who should take up the work of the committee, the lines on which it had been prepared to carry on these observations. The different agencies on which he had relied for information were:

First. The United States Signal Service Observers, at such points as it had been deemed advisable to obtain data, for the meteorological observations which they are by law required to make.

Second. Other scientific observers, official or voluntary, for determinations of ozone and peroxide of hydrogen at or near the same points.

Third. Chemists, who could be relied upon for examinations of the atmosphere for organic impurities, at the same stations and

Fourth. Physicians, who were called upon to make returns of all cases of acute disease occurring in their own practice, in the neighborhood of these stations.

He regretted to be compelled to say that, while the Signal Service officers were perfectly ready to give all the assistance in their power, and scientific voluntary observers were also to be depended on, and a chemist could occasionally be found who was willing to devote attention to the subject, the physicians could not be aroused to a sense of the importance of the subject, or to give the slightest assistance.

Dr. Hibberd suggested that it would facilitate the work of the Section in this respect if Dr. Davis would kindly name his own successor in the work, and a motion was passed requesting him to do so, at his convenience.

In the absence of the author, Dr. C. A. Lindsley read the paper of Dr. Joseph R. Smith, Colonel and Surgeon U. S. Army, Medical Director Department of Arizona, entitled "Sickness and Mortality in the Army of the United States."

Dr. A. N. Bell, of Brooklyn, then read his paper on "The Beneficence of Disease."

A paper on "The Sanitary and Unsanitary Relations of Underground Waters" was next read by Dr. Peter H. Bryce, of Toronto.

Dr. Lawrence F. Flick, of Philadelphia, followed with a paper on "The Duty of the Government in the Prevention of Tuberculosis."

Opportunity for the discussion of these valuable papers, which were listened to with great interest, was prevented by the fact that it was necessary to vacate the room by a certain hour.

Election of officers for the ensuing year being now in order:

Dr. Bell nominated Dr. Benjamin Lee, of Philadelphia, as Chairman.

There being no other nomination, a *viva voce* vote was taken, and Dr. Lee was announced as elected.

Dr. Hibberd nominated Dr. Lawrence Flick, of Philadelphia, as Secretary.

There being no other nomination, a *viva voce* vote was taken, and Dr. Flick was announced as elected.

On motion of Dr. Bell, it was resolved, that the Chairman and Secretary elect be a committee to nominate the members of the Committee on State Medicine, and be instructed to send the list of the names to the Secretary of the Association.

The Section then, on motion, adjourned to meet at the same place at 3 P.M., May 7, 1891.

BENJ. LEE, SEC'Y.

THIRD DAY.

The Section met, pursuant to adjournment, at 3 P.M., May 7, 1891.

Dr. J. Berrien Lindsley was called to the chair. The Secretary announced that he had received a telegram from Dr. J. D. Plunkett, the Chairman

of the Section, stating that he had been detained by the sudden illness of his wife, and regretted that he would be unable to be present.

Dr. A. N. Bell moved that the Secretary be instructed to express to Dr. Plunkett the regrets of the Section at his absence, and to request him to forward at once a copy of his address for publication. It was carried.

Dr. H. O. Marcy being compelled to read a paper in another Section, his paper was substituted for the first paper on the programme, the author of which was absent. Dr. Marcy read his paper on "The Coroner System in the United States."

The paper of Dr. George M. Sternberg, Lieut.-Col. and Surgeon U. S. Army, on the "Disinfection of Excreta," was read, in the absence of the author, by Dr. Peter H. Bryce, of Ontario.

Dr. C. W. Chancellor, Secretary of the State Board of Health of Maryland, then read a paper on "Simple Methods of Sewage Disposal," accompanied by the presentation of a model apparatus for the purpose of use in suburban residences.

The Secretary read a letter from Dr. Robert C. Davis, member of the Board of Health of the City of New York, stating that owing to illness, he regretted to be unable to be present to open the discussion on these papers, as announced.

Discussion being invited, Dr. Lyster, of the Michigan State Board of Health, remarked on the fact of the necessity of some definite action on the part of the Section for the protection of water supplies, both in wells and rivers, from the sources of pollution referred to in Dr. Chancellor's paper. He thought we should put ourselves on record as utterly condemning the use of the ordinary unprotected privy vault.

Dr. Bryce, while greatly interested in the manner in which Dr. Chancellor has sketched the different methods of sewage disposal, and in the method proposed for dealing with it in small quantities, which he could see might work very fully for separate houses, confessed that he had been disappointed in the want of success attributed by the reader of the paper to systems of sewage irrigation. Water carriage has such a vast advantage over all other systems in convenience, and in cleanliness, and in inoffensiveness about the residence or building, and with good modern plumbing may be made so perfectly safe to the occupants of the house, that we are practically compelled to accept it for all towns of any size.

It had been demonstrated that the separate system could be introduced for a town of 5,000 inhabitants, at a cost of from $7,000 to $9,000 per mile, with all necessary appliances for flushing automatically. The question of expense, therefore, is met. The only question is, in cases where there is not a large river with a strong current, what to do with the effluent. It did seem to him that Dr. Chancellor had overstated the difficulties attendant upon treating this by irrigation. As an instance of how readily this might be done, he referred to the system in use by the London Hospital in Ontario. The entire plant, from beginning to end, cost only $25,000, and it sufficed for the necessities of a population of 1,200 people. The separate system was adopted. The irrigation farm was only four acres in extent. One-third of this surface was used every day, so that each portion had two days of rest. The effluent flowed on to it, so thoroughly mixed by its rapid passage through the pipes, that it was absolutely fluid and left only a thin film on the surface, which when dry was raked in by a laborer. There had never been the slightest offensive odor from it, and chemical tests indicated complete nitrification of all the organic filth.

Dr. Chancellor, in closing the discussion, said that Dr. Bryce had evidently misunderstood him, as regarded the intent of his paper, which was not intended to take up the discussion of large systems of sewerage, but only of devices, where large systems are not available. His figures on the expensiveness of irrigation were with references to places in which it was absolutely necessary to prepare the ground by an elaborate system of double under drains. Very few places were so fortunately situated as London with its natural filter bed of sand close at hand. And even then he feared that in a few years it would be necessary for them to take in new ground for the purpose. This had been the experience in Berlin and other Continental cities. In regard to the purification of infected wells, he had often been able to accomplish it by having a quantity of chloride of lime placed in the well, allowed to remain a few hours, and the well then pumped out completely. By repeating this process two or three times, the water could often be completely purified. Of course, when it was practicable, he preferred to have such a well abandoned.

The next and last paper of the programme was read by Dr. G. W. Jenkins, of Kilbourne City, Wisconsin, under the title "Hygiene in the Rural Districts."

The suggestion contained in the paper that physicians could do much to improve the hygienic conditions in rural districts, by forming social clubs, which should meet from house to house, and before which demonstrations of truths familiar to hygienists, which would interest and impress the minds of the people, was considered a practical and valuable one by Drs. Lee, Lyster and other members.

The section was then declared adjourned, to meet at the time and place determined upon by the Association, in the year 1892.

BENJ. LEE, *Secretary.*