MEDICAL SOCIETIES

Philadelphia Academy of Surgery.

REGULAR MEETING OCTOBER 2, 1893.—THE PRESIDENT, DR. WILLIAM HUNT, IN THE CHAIR.

Dr. Oscar H. Allis read a paper, entitled,

CARBOLIC ACID USED IN FULL STRENGTH IN SURGERY.

Surgeons in early days of antiseptic surgery attributed their success to carbolic acid. As introduced, it was employed in a dilute aqueous or oleaginous solution. For a time it was the sole antiseptic. To-day it is mainly used in general surgery as a bath for surgical instruments. Few surgeons will demand a reason for its abandonment. Few have not personally experienced its benumbing effects, and have thus been able to assign the collapse following its employment to something different than loss of blood, shock of operation, or anesthetic.

With such an experience of carbolic acid in its dilute form I confess that I was quite astonished to learn from my friend Dr. B. F. Gardner, of Bloomsburg, that he was in the habit of using the article in its full strength upon extensive cut surfaces, and that, too, with the happiest results. As this article owes its entire value to Dr. Gardner, I will give in detail his method.

When Lister introduced his paste Dr. Gardner used it quite extensively. After an application to quite an extensive wound surface he was surprised to find it turn white, and that he had used pure carbolic acid. He therefore immediately washed the surface and dressed the wound, keeping it open until oozing had ceased. The case did so well that it inaugurated with him a line of treatment that he has extensively employed. As a typical application let me take an amputation of the female breast. After its removal and the ligation of the bleeding vessels carbolic-acid crystals, dissolved in sufficient water for solution, are applied with a sponge to all parts of the cut surface. Immediately upon the application of the acid the tissues turn white, which is a gaurantee of its thorough action. The wound surface is then washed with water previously sterilized by boiling, and then approximated with provisions for drainage. This is especially necessary, as for twenty-four hours the oozing must find ready exit. During the first few days there is a slight local hyperemia along the borders of approximation, but this declines without crisis.

Dr. Gardner claims for carbolic acid applied in official strength:

1. That no systemic absorption attends its use, and hence no danger, no shock.

2. That is is a local anesthetic. Hence there is not as much pain after the operation.

3. That it is in a measure a hemostatic, acting especially upon the capillary vessels.

I have taken the removal of the mamma only as an illustrative case. In all operations outside of the pleuritic and abdominal cavities, such as amputations and resections, Dr. Gardner resorts to it.

In hydrocele he lays open the sac freely, then applies carbolic acid to the tunica vaginalis, and concludes with packing or drainage. The operation is not followed by excess of any kind, and recovery is prompt. He has used it in gunshot wounds of the knee and ankle. If he gets such a case after suppuration has set in he freely opens the joint, applies the carbolic acid to every part, washes out all excess freely, recures ample drainage with fixation, and confidently awaits the result. Ankylosis may follow, but this will depend on the extent of the injury, the delay in treatment, the conduct of the patient. Dr. Gardner has used bichloride of mercury, hydrogen peroxide, iodoform, etc.; none of them has answered the claims made for them; all have disappointed him, but pure carbolic acid never.

I have said that Dr. Gardner does not use this upon serous membranes—*i. e.*, within the abdomen. I must modify this statement. In a case of strangulated hernia, in which he found patches of sphacelus—not deep, but threatening—he cautiously applied the pure acid and returned the gut. Fortunately, the strangulation had been arrested by operation in time to save the gut. Nothing eventful in the subsequent history, which was speedy.

I do not know Dr. Gardner's theory of the actions of this powerful drug, and shall attempt no explanation. The turning of the wound surface white is due probably to the coagulation of the albumin of the tissues and fluids of the wound surface, and not that the acid has a necrotic effect. That it does not produce a true destruction of tissue may be inferred that after a large breast or thigh amputation he will have primary union and no suppuration. In its use in hydrocele a half drachm or more is injected into the tunica vaginalis, and resolution without suppuration ensues. It is possible that by its action upon the wound surface an action similar to that obtained by heat may be produced and thus facilitate repair.

I will conclude this article by briefly stating my own experience with it.

On entering the wards of the Presbyterian Hospital I found that one of my amputations of the thigh had not done well, and looking at the stump, found it swollen and of an angry, threatening character. The seam of approximation was perfect. I therefore removed all the sutures, and separating the flaps, found them almost in a stage of gangrene. Taking carbolic acid pure, I applied it freely, pressing it into the tissues with the sponge applicator, removed the excess, and, packing the space between the flaps, renewed the dressing. This was done without anesthetic and without apparent pain. The exposed surfaces soon began to granulate, when they were approximated and recovery soon followed.

I have also frequently applied it upon a carrier with cotton to sinuses and after curetting glands.

Dr. H. R. Wharton asked if Dr. Allis had seen carbolic-acid poisoning from the use of the agent in this way. He had never seen much trouble from the use of carbolic acid except in children. At the Children's Hospital he had seen two or three cases where its use had produced a marked constitutional effect. In one instance where a large nevus was dressed with carbolic acid application there was a dark colored urine and other symptoms of poisoning.

Dr. William J. Taylor thought the application of pure carbolic acid to a fresh, clean surface, such as was left after the removal of the breast, was totally unnecessary. If there had been a thoroughly clean skin, clean instruments, ligatures, and hands, there would be primary union. If such a fresh surface was smeared with carbolic acid there would be a large amount of oozing. His experience with a few cases where strong carbolic-acid solutions had been used, a number of years ago, had been that healing was much retarded. As an application to suppurating surfaces such as Dr. Allis had spoken of, and where one wished a cauterizing and disinfecting action, he considered carbolic acid one of the best agents that we have, and he used it frequently.

Dr. W. Joseph Hearn said that if carbolic acid was applied to a raw surface, otherwise healthy, one would expect to have a certain amount of necrosis of the tissues. Some cells would be destroyed, and afford a soil for the propagation of germs.

Dr. Richard H. Harte said that Dr. Levis had been in the habit of using carbolic acid for its cautery effect. He remembered several cases where he had used it freely, producing large sloughs over the posterior surface of the thigh.

Dr. Allis said that, in regard to poisoning, Dr. Gardner alleged immunity from poisoning from the fact that the application seared the whole surface and closed the small vessels, and nothing was taken into the system. Dilute solutions were rapidly taken up. In one case, where he had operated on two herniæ in the same individual, there had been a good deal of collapse following the use of a dilute solution of carbolic acid

He was not prepared to say whether it had a necrotic action or not. He did not understand how Dr. Gardner got primary union, using it as he did, if it had such an action.

He thought that Dr. Gardner had probably begun its use with the idea that there might be left after amputation of the breast some cells which it would destroy. He did not bring this forward thinking that any one would be led to use it in these cases, but there was a big lesson in this use of carbolic acid. There were places where it was valuable—for instance, in deep sinuses and pus tracts. He had injected it into a psoas abscess so that it would run out—probably eight ounces—without the slightest constitutional effect.

He could subscribe to what Dr. Harte had said. Care must be taken that the carbolic acid did not come in contact with the skin. If it touched the skin it would blister it, but when applied to a raw surface it did not have the effect which we should expect. In a few cases where it had been injected into the tunica vaginalis the patients had almost died, but in a large majority of cases carbolic acid pure in hydrocele effected a happy cure and without seppuration, hence without necrotic action.

In collecting some cases of accidents in the treatment of hydrocele such cases had been reported to him.

As to whether or not the application in recent surgery was necessary or advantageous, he left that for individual opinion, He had seen bichloride solution do as much mischief as carbolic acid probably could do in preventing primary union.

Dr. L. W. Steinbach said that a number of years before he had had the pleasure of assisting Dr. Levis in the removal of an ovarian cyst in private practice—at that time the spray was used—the assistant who had charge of the spray put the carbolic acid into the bottle and the water on top of it without mixing the two, so that a spray of pure carbolic acid was delivered into the wound and on to the operator's hands. The doctor's hands became so benumbed that he was unable to introduce the stitches. The woman, however, made an excellent recovery.

Of course every one knew the good success of Dr. Levis in the treatment of hydrocele with carbolic acid. He was careful that none got into the connective tissue or on the scrotum. The speaker had never seen an accident in any of his numerous cases.

A Report of Three Months' Service in the Jefferson College Hospital

was read by Dr. W. Joseph Hearn.

The object of this report was not to include every minor operation, but only those which might prove of interest

Fecal Fistula.—A young woman, married, two weeks after her first confinement, suffered from a strangulated femoral hernia. Her physicians professed to have reduced the hernia under ether. Subsequently an abscess formed at the femoral ring, was opened, with escape of gas, pus, and some fecal matter. Four months after she presented herself at the hospital, suffering from an almost constant escape of gas and fecal matter from a small tortuous sinus below Poupart's ligament. By means of a very small flexible bougie, the author was enabled to find the way into the bowels. He cut down on this bougie, following up the sinus until the bowel was reached. As he could feel no spur, he concluded that there was simply a small opening in the bowel. He freshened the edges and closed the wound. Twenty four hours after symptoms of obstruction of the bowel occurred, with peritonitis, followed by death in three days. A post-mortem examination revealed that, instead of perforation of the bowel with

a small opening, a large section of the bowel had been caught in the ring, and at least two thirds of the circumference had been lost in the slough. The lesson taught him in this case and in other similar cases that he had seen, that the abdomen should be opened in the middle line or outside of the linea alba, in addition to dissecting down through the sinus, in order to find the condition of the bowel and the amount of lost tissue. This had been a case for lateral anastomosis.

Cancer of the Colon.—A second case of abdominal section had the following history: A woman sixty-three years old was admitted to the ward suffering with obstruction of the bowels of three week's duration. The abdomen was enormously distended, and there was fecal vomiting. An incision was made in the middle line below the umbilicus. The intestines were so much distended that it was impossible to ascertain the seat of obstruction. An incision was made into the small intestines and their contents were milked out. This procedure necessarily caused much fecal matter to be spilled in the abdominal cavity. After reducing the contents of the abdomen the obstruction was easily located. It was a carbinomatous contraction of the middle portion of the transverse colon, with extensive adhesions to the surrounding parts. As it was found impossible to remove the section of bowel involved, an artificial anus was made in the right side. The colon just above the ileo-cecal valve was attached to the abdominal wall and, as the symptoms were urgent, immediately opened. The peritoneum was so tender and brittle, due to inflammatory infiltration, that it was with great difficulty that sutures could be made to hold. The same difficulty was encountered when he attempted to close the opening made in the small intestine. The parts were so thickened that it was almost impossible to invert the intestinal walls for the Lembert sutures. The intestines were returned with great difficulty into the abdominal cavity, which was then thoroughly irrigated. The patient rallied from the shock promptly. Her temperature did not go beyond 101° F. She improved daily, and left the house in four weeks almost as well as she was before the obstruction occurred. The carcinoma had given her but little trouble before the obstruction—not sufficient to cause her to call for medical advice.

Femoral Aneurism.—A third abdominal section was for ligation of the external iliac artery for an aneurysm involving the femoral under and beyond Poupart's ligament and a large portion of the external iliac in the abdominal cavity. The patient was a man, aged forty, and in good health. He determined to do the transperitoneal operation. The artery was tied without much difficulty by placing the patient in the Trendelenburg chair and packing the bowels, away from the point where he wished to place the ligature, with large pads of antiseptic gauze. The patient made a good recovery, and left the hospital cured. The author had two years previously ligated the femoral artery of the same limb.

Two Cases of Amputation of the Penis for Epithelial Cancer.—In one case the glands in the left groin were involved, and were removed with much difficulty. The left limb was very edematous, due to pressure of the enlarged gland on the veins. The difficulty of removal was due to the proximity of those glands to the veins. The patient made a satisfactory recovery.

Five Cases of Hydrocele were operated upon by the open method. That is, the sacs were incised for about an inch; the edges of the sac were caught with hemostatic forceps to prevent difficulty in getting into the proper cavity. After the cavity was thoroughly dried with antiseptic gauze, pure deliquesced carbolic acid was applied to every part of the serous membrane. Then an iodoform gauze drainage was inserted and left for forty-eight hours. Should the incision be larger than necessary, a few catgut sutures could readily be introduced, to partly close the opening. The drainage which this mode of procedure admitted of insured absolute success. Anesthetics were not necessary, as the line of incision could be frozen with chloride of ethyl, and the application of the acid or any other caustic caused no more pain than when injected. Those cases where the sac was very thick and could not collapse, or where covered with calcareous plates, were not adapted for this mode of treatment. Only entire or partial excision of the sac would cure that class of cases. The operation of laying open the sac and attaching it to the scrotum, and then packing, he never performed, on account of the subsequent deformity.

Three Cases of Varicocele with Elongated Scrotum.—He had ceased to perform the operation by the subcutaneous method. Both these patients had been operated upon by the open method, and a section (one inch) of the veins removed. The tied ends were then sutured together with catgut, which insured the shortening of the scrotum. Catgut was also used for ligature of the veins. The most satisfactory way to reach the veins was to transfix the tissues with knife or scissors, each side being lifted with a forceps as the gynecologist approached the peritoneum. It could be done rapidly and without danger of wounding the vein. With proper antiseptic precautions and properly sterilized catgut the patient would make a more rapid recovery than with the subcutaneous method. He never used drainage, but closed the serous membranes with catgut and the skin with silk.

Amputation of the Forearm for Epithelioma of the Wrist, Which Almost Encircled the Arm.—For two years this patient had submitted to the application of caustics from a cancer curer until the pain became unbearable. The wound healed by first intention, not a drop of pus having been seen. But the pain in the arm never ceased. A multiple neurosis followed the local one after the patient left the hospital, and the patient died eight weeks after the amputation. Alcoholism could not be ascribed as a cause. Was it the continued use of the caustic applications, which several times

caused sloughs, so the patient informed me, that caused exposure of the bones and the tissues between the bones?

Four Cases of Amputation of the Thigh; One for Sarcoma Springing from the Periosteum of the Thigh Bone about the Junction of the Upper with the Middle Third. — The tumor measured twenty-eight inches in circumference, and approached the joint so far that an amputation of the hip was thought proper. Wyeth's pins were inserted and the rubber band was applied. The flaps were cut for hip amputation, but when the bone was reached it was found in such good condition that the head was not removed. The patient made an excellent recovery and gained much flesh. She was seventy years old and much broken in health when admitted to the hospital.

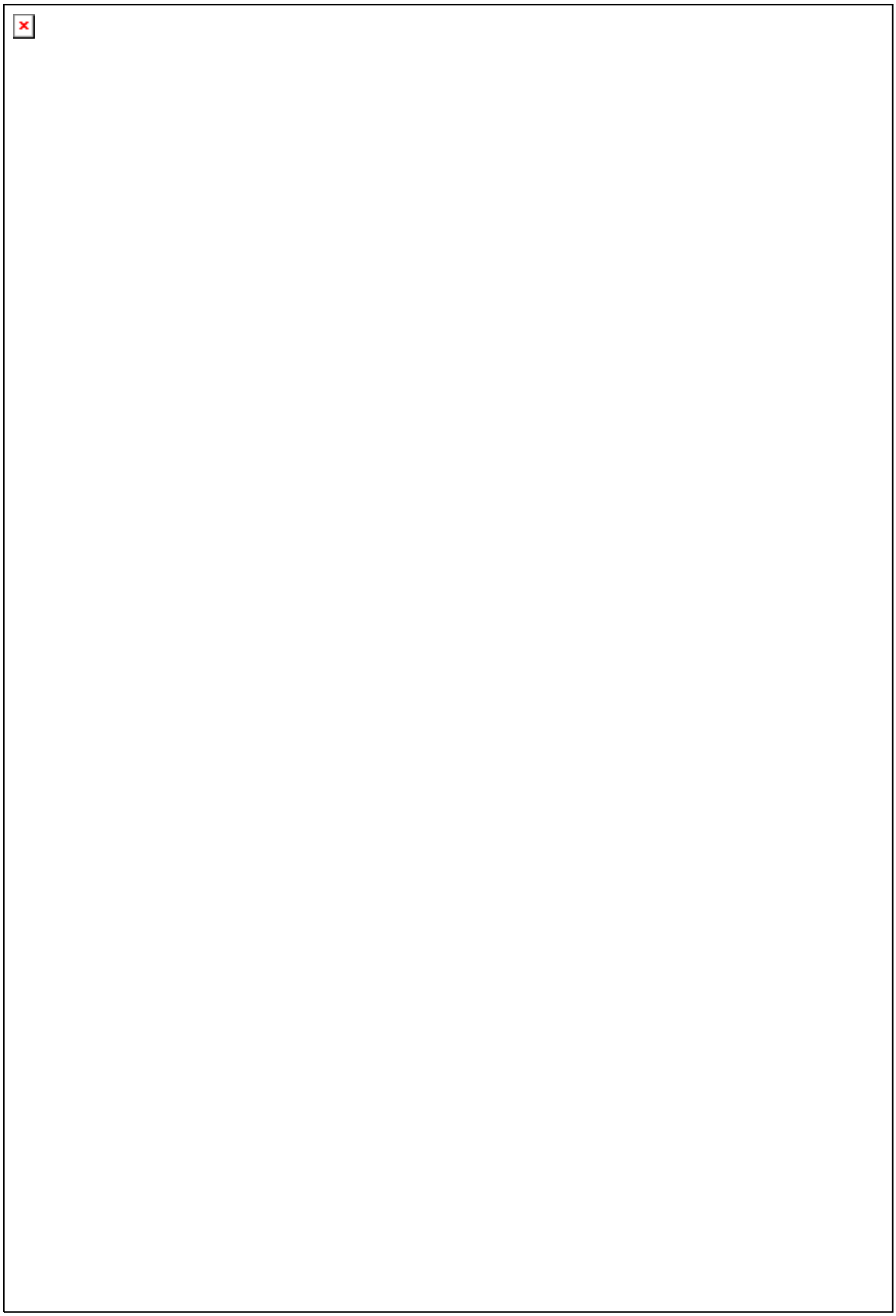
The second case of amputation was for a chronic syphilitic endostitis and necrosis of the lower end of the femur, with an old synovitis of the knee joint, in a man forty five years of age and in an almost exhausted condition. The amputation was done at the junction of the upper and middle third of the thigh. The marrow was soft, almost fluid, and entirely disorganized, and it was not deemed proper to leave it. As the bone seemed healthy, he curetted up as far as the trochanter major, and packed with iodoform gauze. The patient suffered very much from shock during and after the operation, but from that time on he improved daily without a single untoward symptom until entire recovery followed.

The third case was that of a man aged thirty-three years, admitted to the hospital suffering from acute gangrene of the left leg. His history was that three weeks previous he had a second attack of an apparent ecphyaditis under the care of Dr. W. L. Coplin. The pain, however, soon subsided in the right iliac region, but severe pain was felt down the left leg. The pain was excruciating, and could scarcely be controlled by large doses of anodynes. Soon after the pain began it was noticed that discoloration of a linear character occurred. It followed the course of the superficial nerves and apparently involved only the skin. Soon gangrene of the entire limb occurred, with great depression of the nervous system. A line of demarcation formed above the knee, and amputation was advised. The limb was removed at about the middle third of the thigh. The operation was followed by great shock. Very little blood was lost. He rallied for a few days, when gangrene commenced in the right limb. At the same time it was noticed that there was no perceptible pulsation in the left radial artery. He sank slowly and died at the end of ten days from an extensive gangrene of the right leg. His previous history was not good. He suffered from chronic alcoholism. He did not suffer from disease of the valves of the heart, but from a fatty heart. An embolus was the apparent cause of the gangrene.

The fourth case was that of a boy aged twelve years, who previous to this illness never was sick. On April 1st he began having pain in the left knee, and was treated for rheumatism. Soon the swelling involved the knee joint as well as the whole leg below. His case was then supposed to be one of acute cellulitis, although there was no history of injury or any previous abrasions. He was admitted to the hospital, and several openings were made in the leg and large quantities of pus evacuated. His temperature fell for a few days, but soon arose to 103°, and he was slightly delirious. Then it was found that the joint itself was involved. It was opened and a large quantity of puro sanguinolent fluid escaped. Still the temperature continued above normal and the boy was still delirious. Other pockets of pus were looked for and opened. Bedsores were threatened and his condition grew worse. At the third operation it was discovered that the boy was suffering from epiphysitis of the tibia. Necrosis at the epiphysis had occurred. As the knee joint was disorganized and the leg from the ankle to the knee was one mass of suppuration, an amputation was advised and accepted. He bore the amputation well, and almost from that day his delirium ceased. The wound healed promptly without suppuration. Very little was said of epiphysitis in the text books. The author thought this disease occurred more frequently than we were aware of, though suppuration and necrosis were very rare. He had the history of three other cases, though the symptoms were of a much milder type than in the case just mentioned.

Floating Cartilage of the Knee Joint.—The cartilage was exhibited. Its dimensions were an inch and a half by three quarters of an inch. The man, aged forty-five years, suffered for many years with what he supposed to be rheumatism in his left knee. It had never impeded his locomotion very much. For a long time it must have been too large to impinge itself between the tibia and femur. Its position was on the left lateral aspect of the knee joint. The author cut freely down on it and removed it without difficulty, as it was not attached to any of the fimbriæ of the synovial membrane. Considerable synovial fluid escaped. The synovial membrane was closed with catgut sutures and the skin as usual. No drainage was used. He made a good recovery without ankylosis.

Neurectomy of the Infra-Orbital Nerve in a Lady of Seventy Three Years Who Had Suffered Many Years From Neuralgia.—Three years previously the author had removed the inferior dental nerve for her, with relief for two years. He removed the entire nerve by a trephine opening at the angle of the jaw to the mental foramen After two years the pain returned in the infra-orbital nerve. This was removed by making a V shaped notch in the lower border of the orbital bone down to the foramen. By that means he was sure to secure the nerve with all its filaments. Then, lifting up the eyeball with a retractor and breaking through the thin floor of the orbit, he was enabled to break off the nerve as far back as its origin. Very little deformity followed the removal of the wedge shaped bone. It was now five months since the operation, and there had not been any return of pain.



dition of the bladder and kidneys. He had never crushed a stone in a young child, yet he thought it the proper treatment.

Dr. Allis asked Dr. Hearn if he had seen any slough ing in the cases of hydrocele where he had used carbolic acid.

Dr. William J. Taylor had had the pleasure of seeing Dr. Hearn operate in the case of intestinal ob struction referred to. He never had seen such distention of the intestine. The small intestines were larger than the average colon, and the tissues were so soft that the sutures tore out. It was simply a miracle that the woman survived.

Dr. W. W. Keen said it was impossible to refer in detail to the five series of cases which Dr. Hearn had reported from a service of eight or ten weeks, but there were two points to which he would like to call attention. One was the use of the Trendelenburg posture in all cases of operation about the mouth and nose. A pre liminary tracheotomy had often been advised and had been done in these cases. Of course, tracheotomy was not one of the most serious operations, but it did add to the complications. As Dr. Hearn had said, the speaker believed that the use of this posture would practically do away with preliminary tracheotomy in most cases, and always if the tracheotomy was for the purpose of preventing blood entering the larynx and lungs.

He had noticed also with much pleasure that Dr. Hearn had drawn attention to the importance of uniting the mucous membrane after removal of the tongue. He thought that this was of great importance, in order to avoid as far as possible any opportunity for septic infection. In removal of the lower jaw in a number of cases he had endeavored to unite the mucous membrane so as to cover in the raw surface entirely. If we did that there was no opportunity for infection of the system.

These two points in the surgery of the mouth were of great importance, and it was only in late years that he had recognized their importance; but experience had taught him the immense benefit to be derived from these procedures.

Dr. Hearn would state that he had never seen sloughing from the use of pure carbolic acid. In one case, where the surgeon introduced a dilute solution, sloughing followed, and a few days later the testicle could be seen. Where he had used pure carbolic acid he had never seen any accident. He had always injected it until he had begun this procedure of opening the sac. He had never seen the latter operation fail. The opening permitted thorough drainage and was sure to succeed—New York *Medical Journal.*

Clams and Cremation.—A small crematory was recently built in a New England town, and the dedication ceremony consisted in a clam-bake, the oven of the crematory being used to cook the clams and corn.

NOTES AND ITEMS

A Plan to Remedy the Dispensary Abuse.—The dispensary abuse, as it has been called, was recently discussed with much spirit in the Academy of Medicine (N. Y. *Med. Times*). The consensus of opinion with the members seemed to be that the profession was being defrauded out of its just rights by these dispensaries, and that a halt should be called.

One disputant inquired: "In what other profession or trade could there be found an equal number of men who devote so much time to charity work, as in the medical profession?" Of course the question was not answered.

It is a fact that there is no dearth of medical men who are willing to do this dispensary work, and there must be grounds for it.

The reasons seem to be: First, clinical experience; and second, the hope of obtaining patients who will pay.

A plan which would be much more economical to the public, and more just to physicians would be to establish a bureau in the Department of Charities and Correction or in the Charity Organization Society, for the registration of patients who require free medical aid, and for such physicians as are willing to do this service. When application is made to this bureau by a patient needing attention, he should be referred to the physician who has signified his willingness to serve in such cases, nearest to the residence of the patient to be treated.

It can be safely left, we think, to physicians to collect a fee for the service, if the patient is found able to pay.

Every physician who registers should promise never to refuse service, but to notify the bureau of any patient he believes to be able to pay and who refuses to do so.

The bureau shall investigate and report the result to the attending physician, which shall be final. Refusal to attend a case when notified to do so by the bureau, shall be sufficient cause for dropping a name from the list.

In a short time the indigent people of this city will be so registered, that there can be little opportunity for imposture, such as is now claimed to be practiced upon our free dispensaries. The immense amount of money now invested in costly buildings can be devoted to other more necessary work, and a vast amount of time saved to the attending physicians, who would do this work within their private office hours, or in special hours to be fixed by them.

There would be less danger from contagion, because there would be no great aggregation of patients at a single point. They would be divided amongst a great number of physicians, hence better service could be ren-