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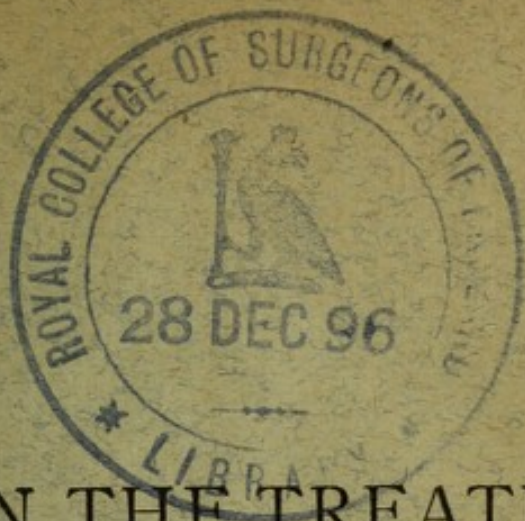
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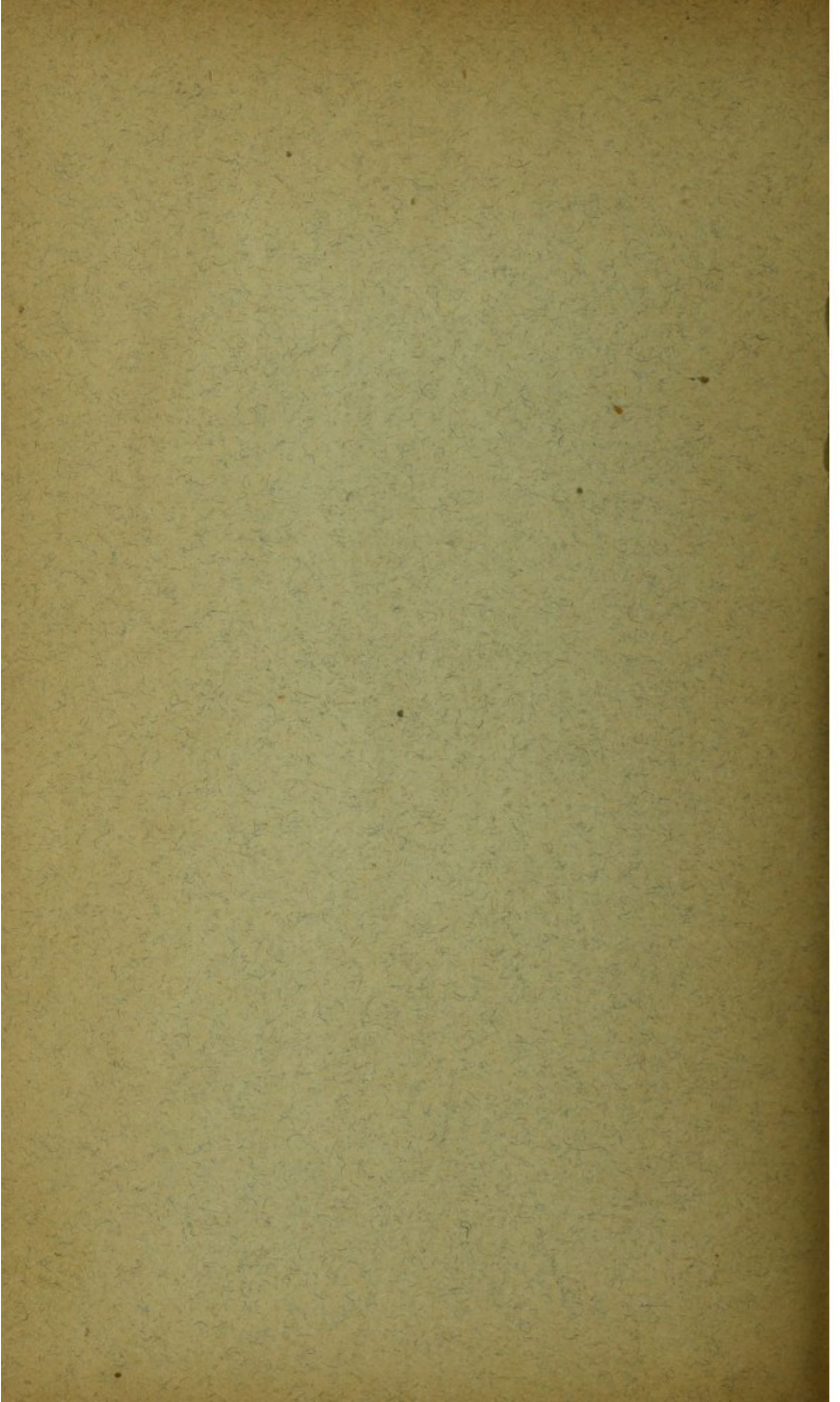
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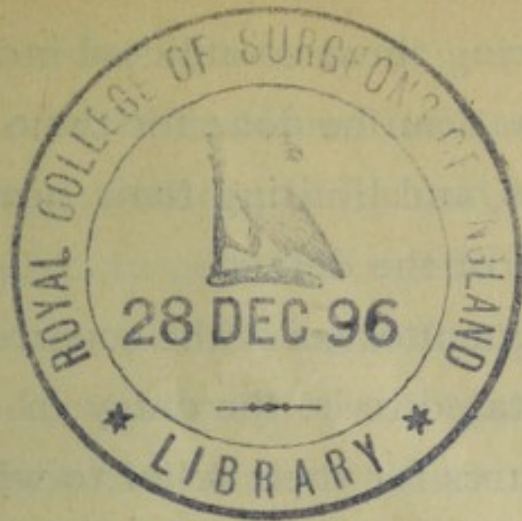
BY

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NOTES ON THE TREATMENT OF FÆCAL FISTULÆ.¹

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The three cases to which it is the chief purpose of this paper to call attention seem to be of sufficient general interest to warrant their presentation for consideration and discussion. All of them were successfully treated by surgical procedures—one by enterectomy and anastomosis, by the method of Maunsell; and the others by enterorrhaphy. There are few conditions to which patients are liable that cause them greater mental and, at times, bodily distress, than do the occurrence and persistence of a fæcal fistula. While it produces directly serious disturbance to bodily nutrition only when it is situated at some distance above the ileo-cæcal valve, it indirectly causes bodily deterioration, as wherever located it causes much cutaneous irritation and entire loss of control by the patient of the intestinal

¹ Read at the thirteenth annual meeting of the New York State Medical Association, October 13th, 1896.

contents, rendering those so afflicted most offensive, in spite of all that can be done for them by means of pads and trusses, and limiting their usefulness during the duration of the defect.

The most frequent cause of the occurrence of fæcal fistula may be stated to be the delay in resorting to operative measures for their relief to which patients suffering from typhlenteritis and strangulated hernia, whether it be of the internal or external variety, are too often subjected while their ailment is carefully diagnosticated. Among the other more common causes are the employment of drainage following abdominal operations, especially by means of tubes; imperfect technique in operations upon or about the intestines; as a result of an ulcerative process within the gut; or from gunshot or stab wound. A recent writer on the subject under consideration stated that, in his opinion, "the best treatment for this condition consists in its prevention, when possible, by a resort to early operation in those cases in which the occurrence of a fæcal fistula is a possible result." In this view the writer of this paper heartily concurs.

But in a case in which this dread condition has followed in the train of some intestinal disorder, whatever the cause, what course should the physician advise his patient to follow, to the end that he may be relieved from his distressing disability with as little risk to life and the least possible inconvenience? As is well-known, many of these fistulæ gradually

contract and close spontaneously; and, therefore, it is well, if the fistula is of small size, with only a slight fæcal discharge, and can be located near or below the ileo-cæcal valve, to postpone operative measures for a reasonable time, in the hope that it will gradually contract and eventually close spontaneously. In those more serious cases in which the opening, on account of its size, location, and the fact that it is accompanied by an intestinal flexure or a growth causing obstruction to the passage of the bowel contents, fails to diminish in size after a few weeks, operative measures should unhesitatingly be advised.

On May 16, 1896, the writer received an invitation, extended to him by reason of a vote of the medical board of the Hartford (Connecticut) Hospital, as well as a personal request from the visiting surgeon, Dr. H. G. Howe, then doing duty, to visit that institution for the purpose of operating upon two patients, each of whom was suffering from a fæcal fistula, with a view to demonstrating the method of intestinal anastomosis by invagination and suture devised by Maunsell, which the writer has advocated for several years past, as preferable to and more surgical than that originated by Murphy, of Chicago, in the event of simple suture of the bowel opening not sufficing to remedy the defect. Accordingly, on May 17th, the writer visited the hospital, and, with the kind and valuable assistance of Dr. Howe and Dr. Ingalls, the operations were performed. For the histories of the

two cases the writer is indebted to the house surgeon, Dr. Naylor.

CASE I.—L. M.—, male, aged twenty-two years, a farmer, was admitted to the Hartford Hospital, on August 3, 1894. He said that about six weeks previous to admission he had had an attack of what was diagnosed as bilious colic, and for nine days nothing had escaped from the bowels. Under medical treatment the bowels finally moved, greatly to the patient's relief. Four weeks after the seizure, an abscess opened spontaneously in the patient's groin, near the lower end of Poupart's ligament. Four days later, another opening occurred in the right iliac region. Both openings remained patent, and discharged pus and fæcal matter freely.

On August 7th, the patient was operated upon. The whole layer of the abdomen above the muscle was covered with pus and fæcal matter. On opening the abdomen an abscess cavity was discovered, in which the appendix was found in a gangrenous condition. This was removed, and the abscess cavity drained. Fæces, however, continued to be discharged through the wound.

On August 25th, another attempt was made to close the opening which was found in the gut. The peritoneal surfaces were approximated by means of Lembert's sutures, over which the omentum was grafted.

On September 1st, it was noted that the stitches had not held, and that in consequence the fistula had reopened, and was discharging fæcal matter.

On November 25th, the patient left the hospital, with the bowel opening still patent.

He was readmitted on May 3, 1896, with the local condition unchanged. He was given light diet, and on May 17th, after the usual preparation, he was anæsthetized, and examination revealed the fact that a fæcal fistula of large size existed, the external opening being located at a point in the old cicatrix opposite the anterior superior spine of the ileum, about two and one-half inches to its inner side. The peritoneal coat of the intestine surrounding the opening in the gut had united to the parietal peritoneum, and the mucous coat of the intestine had united to the cutaneous tissue and was everted, forming an artificial anus. The parts, including the interior of the bowel adjoining the fistulous opening, were washed with hydrozone. The foam resulting from the decomposition of the liquid and the liberation of the contained oxygen was allowed to remain for some minutes before it was removed; after which an incision, about four inches in length, was made, having the opening in the gut for its centre. The old scar tissue was excised as far as possible, and the remaining fistulous tract vigorously scraped with a sharp spoon. When the peritoneum was reached, the gut was freed from it by dissection. The edges

of the opening in the gut were then caught and held by clamps, while the adhesions which bound down the flexed knuckle were dissected away and broken up. The loop of gut containing the opening was then brought outside of the abdominal cavity, which was shut off by means of gauze and sponges. It was found to be located in the lower portion of the ileum. It was laterally situated, involving a large portion of the intestinal calibre, and was so irregular in shape that it was thought wise to excise the damaged and thickened portion of the bowel, which was about four inches in length.

This was accomplished after the application of McLaren's clamps to the gut at some distance from the points of incision, and the anastomosis of the divided ends was effected by means of the technique already alluded to, devised by the late Professor Maunsell, and described by the writer in an article entitled "The Technics of Maunsell's Method of Intestinal Anastomosis," which appeared in the *New York Medical Journal*, of December 14, 1895. Before the anastomosed bowel was returned into the peritoneal cavity, the points of suture were well washed with a fifty per cent. solution of hydrozone in sterilized water. Some of the full-strength hydrozone was again poured over the tissues in the former site of the fistulous tract, for the double purpose of arresting the oozing, which was free, from the remaining cicatricial tissue, as well as to render the parts

aseptic. After the return of the bowel into the peritoneal cavity, and the placing of a single row of silkworm-gut sutures, which included all the layers in the abdominal wall, the cavity was flushed with saline solution, some of which was allowed to remain. The sutures were then tied, thus closing the wound without drainage. The cutaneous surface about the wound was washed with hydrozone and then freely dusted over with acetanilid powder, and the usual dressings were applied.

The convalescence was uneventful. The patient's bowels moved four times on the fourth day, and daily thereafter. On the same day his pulse rate and bodily temperature became normal, and have remained so. The wound in the abdominal wall united primarily except for about one inch of the skin, in the middle. On the twelfth day following the operation the patient was allowed to leave his bed, and was given ordinary diet. At this time it was noted that the patient slept well, that his pulse was strong, that he was free from pain, and that his general condition was good.

CASE II.—W. R.—, male, aged five years, was admitted into the Hartford Hospital, during May, 1895, suffering from typhlenteritis. The abdominal cavity was opened and a large abscess was found, the cavity of which was washed out and drained without any attempt being made to find the appendix. Soon after the performance of the operation, fæcal matter appeared in the discharge. During the year several

unsuccessful efforts were made at intervals to close the fistula by suture, prior to May 17, 1896, when the following procedure was undertaken for the patient's relief.

The fistulous opening was located about one inch and a half from the anterior superior iliac spine, on a line drawn therefrom to the umbilicus. After the usual preparations the surrounding skin was washed with hydrozone, and this was also injected into the sinus. An incision was then made on either side of the old cicatrix, and it was removed. The peritoneum was separated from the opening in the gut, the edges of which were held together by clamps. The intestinal opening, which was one inch and a half in diameter, proved to be situated in the cæcum near the ileo-cæcal valve. The head of the colon and adjoining gut were freed by dissection till that portion containing the opening could be brought outside of the abdomen. The general cavity of the peritoneum having been shut off by gauze, the gut was again washed with a fifty-per cent. solution of hydrozone. The edges of the fistulous opening were approximated by a purse-string suture of silk. The peritoneal coat of the gut was then approximated by means of Lembert's sutures and finally, after using more of the fifty per cent solution of hydrozone, a portion of omentum was placed over the gut at this point and caught down on either side by sutures, and the bowel was returned into the peritoneal cavity. The old opening in the abdominal

wall was scraped and washed with hydrozone, and the edges of the abdominal wound were united by silkworm-gut sutures, which included all the layers. As there has been such long-continued discharge of fæcal matter and pus, it was thought best to leave one of the stitches untied, and for drainage a narrow strip of gauze was passed down to the bottom of the cavity.

The convalescence was uneventful, except for the formation of a small abscess at the point where the gauze drain was inserted. This was cleaned out with hydrozone and healed kindly, and on May 30th, the thirteenth day after operation, it was noted that the patient was free from pain, that he had a good pulse and appetite, and that his general condition was all that could be desired.

CASE III.—On May 17, 1896, the writer was invited by Dr. Nathan Mayer and Dr. P. H. Ingalls, of Hartford, to see in consultation C. H——, male, aged fifty-two years, whose history was as follows:

On March 17, 1896, he had been seized with an attack of what proved to be typhlenteritis, and on March 25th a large abscess was opened and its contents were evacuated. After the cavity had been irrigated, it was packed with gauze. No attempt was made to find the appendix. About five weeks after the operation, fæcal matter began to escape from the remaining wound and a fæcal fistula developed, through which more or less of the contents of the intestinal canal passed. On examination, an artificial anus was

found, situated about one inch and a half from the anterior superior iliac spine, on a line from this point of the umbilicus, and about one inch in diameter. The mucous lining of the bowel was adherent to the cutaneous tissue, and was everted and protruded. As it was possible by the use of pads largely to control the passage of fæcal matter through the opening, and the patient's condition was not considered favorable, immediate operation was not advised; but the opinion was expressed that on account of the size of the opening and the attachment of the mucous membrane to the cutaneous tissue and its eversion, it was improbable that the opening would close spontaneously. A few weeks later the patient's general condition having improved, on account of the annoyance caused him by the lack of control over the bowel contents and the irritation of the skin by the passage over it of fæcal matter, it was deemed best to attempt the closure of the opening.

On June 17th, assisted by Dr. Ingalls, Dr. Mayer, Dr. Shepard and Dr. Stern, of Hartford, and Dr. Parker Syms, of this city, at the patient's home, the following operation was performed: After the preparation of the patient in the usual manner and the administration of the anæsthetic, the skin surrounding the opening was washed with hydrozone, some being also injected into the interior of the bowel. Then a small sponge attached to a piece of silk was passed into the bowel, plugging the opening.

An incision was made on either side of the old cicatrix, having the bowel opening for its centre. Thus the old scar tissue was excised. The parietal peritoneum was next freed from its attachment to the gut, and existing adhesions were broken up and the gut was withdrawn from the peritoneal cavity, which was shut off by the gauze. The opening proved to be situated in the side of the cæcum, above and about one inch and a half from the point of attachment of the appendix, of which two and one-half inches remained. This was removed after the opening in the gut had been closed, first by a purse-string suture, and then by several rows of Lembert's sutures. After this, the bowel surface was washed with a fifty per cent. solution of hydrozone, and as an additional precaution the omentum was drawn over and sutured to the bowel. The abdominal walls were approximated by silkworm-gut sutures, which passed through all the abdominal layers; but, as there had been some loss of tissue during the continued suppuration, the fascia was approximated by interrupted sutures of catgut. Drainage was not employed.

Convalescence was uneventful, aside from the formation of a stitch abscess, and the patient has remained in good health up to the present time.

The cause of the fistulous openings in Cases I and II was undoubtedly the failure in the first, and delay in the second, to resort to surgical measures for their relief. In both of these cases the trouble apparently originated in an attack of typhlenteritis, to which

was added, in the first case, probable strangulation of the lower portion of the ileum by a band, and which perforated after it had become shut off from the general cavity by adhesive peritonitis. In the second case, the abscess apparently ruptured into the cæcum before the external opening was made. In the third case the cause of the opening was either the pressure on the gut of the material used to drain the abscess cavity, or it was the result of an inflammatory process within the cæcum, as the perforation did not manifest itself until five weeks after the opening of the abscess. Another point of interest in Cases I and II is the fact that several previous unsuccessful efforts to close the opening in the bowel has been made. The reason why these efforts had proved ineffectual, in the writer's opinion, is that the operative measures undertaken for their relief were not sufficiently radical in character the efforts being directed to closing the bowel opening only, and no attempt being made to restore the fæcal passage by breaking up the existing adhesions which had caused more or less intestinal angulation, and consequently too much pressure was brought to bear on the sutures, and they quickly cut out, allowing the fistulæ to reopen.

The method of closing fæcal fistulæ without opening the peritoneal cavity and relieving the obstruction from adhesions seems to be approved by J. Gregg Smith, in a paper which appeared in the *Bristol Medico-Chirurgical Review*, March, 1895. Undoubtedly, it is well when possible to close the opening in

the bowel before breaking up the peritoneal adhesions, but as soon as this has been accomplished an effort should, in all cases in which operation is deemed a necessity, be made to remove the existing obstruction to the fæcal current by destroying the adhesions which hold the bowel in malposition. In fact, few cases which would not heal spontaneously will be benefited by simple closure of the bowel opening, if the obstruction is allowed to continue.

Ever since September, 1893, when the writer proved the value of hydrogen dioxide as an effective antiseptic which in proper solution did not unduly irritate the peritoneum, when followed up by a six-tenth percent. saline solution, he has had little reason to fear the danger of causing septic peritonitis from the accidental escape of pus or fæcal matter while operating. He employs all possible measures to prevent the occurrence of this complication, but when it occurs it is invariably successfully met by the use of hydrogen dioxide, as heretofore described. In those cases in which the gut around and about the opening is much thickened and friable by reason of the long-standing inflammatory process, it is the writer's belief that it is best to resect the diseased portion of the bowel, and join the ends of the gut by the suture method of Maunsell. With a proper understanding on the surgeon's part of the technique and the objects to be attained by the operation—*i. e.*, the restoration of the integrity of the intestinal canal, as well as the closure of the bowel opening—the operation

undertaken for the relief of patients suffering from fæcal fistula should be devoid of unusual danger, and failure to succeed in rescuing these patients from their unfortunate and distressing plight should prove the exception rather than, as at present, the rule.

55 WEST THIRTY-SIXTH STREET.

