during the war. On May 24th, 1889, I read a paper on the subject before the Clinical Society of London and at the same time showed a successful case. In a leaderette in the *BRITISH MEDICAL JOURNAL* for June 1st, 1889, occurs the following statement:

Among the papers read last Friday at the Clinical Society was one which chronicles another advance in conservative surgery, showing that another tissue of the body (tendon) can be successfully grafted as skin, bone, and nerve have been.

The following is a history of the case referred to:

I was asked in November, 1883, to see J. L., a weaver, aged 32, with a view to amputating his right arm for an injury caused by machinery.

The whole of the inner side of the forearm up to the elbow was hopelessly crushed and lacerated, exposing the ulna from one end to the other, but not opening the elbow-joint. The muscles were torn and the bone was rasped bare of periosteum. The wrist-joint was opened and the inner row of carpal bones was crushed. The three inner fingers were hopelessly smashed and the whole dorsum of the hand was swept clean of skin and tendons except the extensors of the thumb, which were bared but not otherwise damaged.

The index finger, excepting that its metacarpo-carpal joint was opened and that its extensor tendons had been completely torn away, was not further injured. After a little consideration, I decided to try to save the radius, the radial half of the carpus, and the thumb and index finger, and, in order to give the possibility of a useful index, to make an extensor indicis from the flexor tendon of the smashed middle finger.

The whole limb was scrubbed with soap and carbolized water, well rubbed with benzol and then thoroughly washed with 1 in 1,000 perchloride of mercury solution.

As the skin of the inner side of the forearm was destroyed and the bone injured, the ulna was excised to within a short distance of the elbow. The inner side of the carpus was removed, together with the three inner fingers, the skin of their palmar aspects being saved to lap over and cover the dorsum of the hand. The flexor tendon of the middle finger was taken out of the sheath, and four and a half inches of it detached and placed over the site of the extensor indicis. The proximal end of the tendon being stitched to the fleshy belly of the extensor communis digitorum, the distal end being fixed to the small portion of tendon left near its insertion into the phalanx. The skin was brought over to cover as nearly as possible. No drainage was employed. The wounds pursued an aseptic course, and there was no sloughing of tendon or skin. The patient returned home within a month, and was advised to try to use his finger and thumb.

He returned to his work in February, and when shown to the members of the Clinical Society he said he could perform his work as a weaver as well as ever. The movements of the fingers were very good, both in flexion and extension; the wrist-joint was movable, and both pronation and supination could be effected. During extension of the index finger the new tendon could be felt to move freely under the integument of the dorsum of the hand.

The man expressed himself as perfectly satisfied with his hand, which enabled him to earn his living as well as ever he could.

My apology for bringing to light this work after thirty years is that I venture to think an unsightly hand with a thumb and a finger is much better than any artificial limb, however perfect it may be.

ACUTE INTESTINAL OBSTRUCTION DUE TO JACKSON'S MEMBRANE.

BY

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It has been doubted by some whether the membrane covering the proximal portion of the ascending colon causes obstruction to the passage of the intestinal contents. It has been my belief that such was the case, and that to this might be ascribed the symptoms associated with this condition. In cases where the pericolicitis (so called) manifests itself as a filmy membrane little or no obstruction can be demonstrated on examination of the colon. Where, however, the Jacksonian membrane is associated with fibrous bands crossing the colon, varying degrees of constriction may be noted. It is possible that this partial obstruction may also account for the dilatation and elongation of the caecum associated with such cases. The clinical symptoms would also suggest this, for the colicky pain, occasional vomiting, gurgling over the caecum, and tenderness on pressure, point to a temporary obstruction. This syndrome forms a common type of dyspepsia

which can be recognized, but which too frequently, even now, is regarded as appendicitis and for which simple appendectomy is performed. That such a band can cause greatly exaggerated symptoms and result in acute intestinal obstruction the details of the following case show. I believe it an uncommon type of acute obstruction and so venture to place the case on record.

Mrs. S., aged 41, was admitted to the Royal Victoria Infirmary on January 18th, 1916, with symptoms of acute intestinal obstruction.

History.

For some years she had had attacks of abdominal pain and also marked constipation, the bowels only moving after an aperient. Three weeks before admission the pains had become worse, she vomited occasionally and had increased difficulty in getting the bowels open. For a week the pain had been severe, vomiting incessant and there had been no action of the bowels, while flatus had not been passed for three days. She had passed blood and slime by the rectum during the last three weeks.

On admission the temperature was 99.8°. The patient looked ill, and although fairly well nourished had a sallow complexion and had few teeth left. The abdomen was moderately distended, a distinct tumour being visible in the left iliac fossa. This tumour was composed of distended intestine; peristalsis could be seen and felt, while borborygmi could be heard during the contraction of the intestine, which caused the patient evident pain. Rectal examination was negative. A diagnosis was made of chronic intestinal obstruction become acute due probably to carcinoma of the pelvic colon.

First Operation.

On January 18th, 1916, the abdomen was opened in the left iliac fossa. Free fluid escaped on opening the peritoneum. A tense cyst was found occupying the left iliac fossa and extending to the bottom of the pelvis. The swelling had the appearance of a thin-walled ovarian cyst, but was tympanitic, and the taenia coli at once distinguished it as the caecum. No part of it could be drawn out of the wound, so it was punctured and a Paul's tube tied in. After evacuating part of its contents the caecum was sutured to the margin of the incision.

The patient improved greatly after the operation. The distension subsided and the bowels were moved normally on several occasions.

Second Operation.

On February 2nd, 1916, the abdomen was opened in the middle line below the umbilicus. The collapsed caecum was found crossing the abdomen from the right side to the caecostomy opening in the left iliac fossa. The lower part of the ascending colon was mobile and was covered by a thin membrane, at the upper border of which was a tight band passing from the parietal peritoneum to the inner border of the colon. The band was the thickness of a match stalk, it tightly puckered the ascending colon, and it was with difficulty that two fingers could be inserted beneath it. The band was removed and part of the membrane stripped away. The caecostomy opening was dissected free from the skin and closed, the caecum being returned to the abdomen, which was then closed. The appendix was normal and no trace of inflammatory adhesions were present.

After-History.

The patient was discharged from the hospital, well, on February 17th, 1916.

In November, 1916, the patient remained in good health, though she still had to take opening medicine.

On two occasions, in August and October, 1916, she had attacks of abdominal pain and vomiting, which necessitated her staying in bed for a few days. Should these attacks persist, further treatment of caecostomy or short-circuiting may become necessary.

REDUCTION EN MASSE OF A STRANGULATED DIRECT INGUINAL HERNIA.

BY

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This case impressed me as a remarkable one in several respects, and I venture to think that it should not be allowed to drift into one's personal experience without a record.

Early in September, 1917, I was asked by Dr. Taggart, of Heaton Moor, Stockport, to see a lady who three days previously had begun suddenly to have pain in the abdomen and right groin; a few minutes afterwards she vomited several times, and noticed a lump in the right groin; she had never previously suffered from hernia.

Dr. Taggart saw her some two hours after the onset and found a tense rounded swelling in the right inguinal canal, about the size of a Tangerine orange, which did not yield an impulse on coughing; the swelling was clearly a strangulated hernia, and

with gentle manipulation it was easily reduced. Dr. Taggart was struck by the fact that the reduction was sudden and complete, giving him an impression like that of pushing a button through a buttonhole. The patient felt relieved for a time, but during the night and next day she was uncomfortable and had occasional attacks of slight colic, and vomited twice; the following day (the third) she still complained of occasional abdominal pains, and again vomited twice.

During the time between the reduction of the hernia and my seeing her the patient had not been given any opium or sedative because the pain was not severe; the bowels had not been moved, nor had she passed flatus, except in small amounts, despite enemata; very wisely, no purgative medicine had been permitted.

Her condition when I saw her on the fourth day of her illness was as follows: A well-developed woman, spinster, aged 45; her general condition and appearance was good. Temperature normal, pulse 92. Abdomen slightly distended, but showing no visible evidence of peristalsis during observation over several minutes. When handling the abdomen, splashing sounds could be heard, and I got the impression of feeling distended coils of intestine. The hernial orifices were normal, and a pelvic examination did not yield any evidence.

Operation.

Laparotomy, some hours later, through the right pararectal incision disclosed a loop of small intestine, 4 in. in length and about three feet above the ileo-caecal junction, tightly strangulated in a peritoneal pouch; the origin of the pouch was not at first clear, but it proved to be a direct inguinal sac displaced from the inguinal canal into the abdominal cavity. By dividing the orifice of the sac the loop of strangulated intestine was easily released; at its point of entrance into the sac the loop showed a narrow annular strip of gangrene; it was simply covered over by an invaginating suture.

After suture of the peritoneum and muscles, the right inguinal canal was exposed, the sac pulled out into the canal and its relations as a direct (external direct) hernia clearly established. The sac was removed and the canal obliterated.

The patient left the nursing home within three weeks, and is now in good health and leading a normal life.

The noteworthy features of this case, apart from the reduction *en masse*, were:

1. The rarity of true direct inguinal hernia in the female.
2. The infrequency of strangulation of a direct inguinal hernia. Given strangulation of such a hernia, it is probable on anatomical grounds that reduction *en masse* is more likely to occur than in the case of the ordinary oblique type.
3. The subacute—in fact, quiet—character of the symptoms of obstruction which the patient presented considering the severity of the lesion; this I ascribed to the deliberate abstention from any aperient medicine and the restriction of her nourishment to the plainest fluids.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A HELPFUL DIAGNOSTIC SIGN IN RUPTURED DIGESTIVE ULCERS.

MR. WILLAN's article in the JOURNAL of February 2nd is of great interest, and he is to be congratulated on his masterful description of the condition. The tight constricting band at the level of the lower ribs, the vertical obtuse angle, and the rigidity, present a complex diagnostic sign of great value. I believe it will be found of real use in some cases of subphrenic abscess, and will help in the diagnosis of this condition, which almost always is attended with difficulties.

A few weeks before Mr. Willan's description appeared, a patient admitted to the Cheltenham General Hospital presented this sign in a very marked degree. I will not enter into detail, but will be content to state that at the *post-mortem* examination, eleven days later, dense adhesions were present in the upper abdomen, with pus. An ulcer of the stomach had perforated, not in the usual acute way, and nature was attempting to shut off the diseased area. There is good reason to believe that adhesions were present before the last catastrophe, which did not present itself as an acute emergency.

I do not think the sign is present in a marked degree, if at all, in most cases of acute perforation, for the picture is so marked, when present, that it would have been described long ago.

It is one of those "pathognomonic" signs to which, nowadays, too little value is attached in the art of diagnosis. The present tendency to confine the diagnosis of abdominal

conditions to whether or no the abdomen should be opened, and to complete the diagnosis afterwards, is woful. The great majority of abdominal conditions, acute and chronic, can be correctly diagnosed after an average experience by the use of common sense. The sign Mr. Willan has described will form part of the armament of the thoughtful diagnostician.

Cheltenham.

S. M. HEBBLETHWAITE.

PREVENTION OF WATER-BORNE DISEASE IN THE TRENCHES.

A TYPE of water-borne diarrhoea observed in the winter in Belgian trenches was characterized by a tongue generally clean or moderately furred, and by marked temporary intractability to either sedatives or purgatives. Its course was rather under a week, as a rule, without fever, or with a temperature under 100°, without blood in the stools, but with very considerable pain and tenesmus. It could be clearly distinguished from the diarrhoeal form of trench fever by the tongue, which in that disease, as I have previously described, has a clean margin a quarter of an inch broad, and later by the lack of pain other than abdominal, and by the temperature chart. The incubation period was eight days. A prophecy made after some experience, to the effect that diarrhoea would break out at the end of the period as a result of a movement of the water-carts which was not communicated to the company officers, was accurate to the day, when some half-dozen cases appeared though the battalion had been free from this disease for a considerable period. The special methods of prophylaxis adopted may, in view of the ubiquity of water-borne diseases in all armies in greater or less degree, be of some interest.

1. The use of chlorinated water is all-essential. The statement that "the water is always boiled before use" is certainly not true as far as the preparation in the trenches of many a stew and many a dixie of tea is concerned.

2. The discipline of the company commander must be such that his orders that no water is to be taken except from the water-cart must be obeyed to the letter.

3. The water corporal must keep a record of every gallon supplied from the cart, and to whom it is supplied. It is best to take the name of each man and the platoon or section which he supplies, and, in the case of isolated strong points, the names of the men he supplies. The amount of water taken per company is compared with the trench strength of the company, and from this the number of pints per man is obtained. By obtaining the amount of water used by the cooks for stews, tea, etc., by observing the tempting streams crossing the routes of weary water carriers and the efficiency of water guards, if any, set over them, remarkably accurate deductions can be made as to the source of some or all of the water used. To obtain the records the water men must work on double shifts; water, at all times, if possible, should be available for the carriers as they arrive, or, at any rate, the sergeant-major warned daily as to the exact hours at which it is available. The labour of carrying adequate supplies up the trenches is very great, yet the importance of this is obvious.

It was observed in one instance that the surface water derived from an area within the trenches was apparently as pure as that derived from the tanks miles behind, requiring less than a single measure of chloride of lime. By bacteriological examination and by repeated daily examination with the Horrocks cabinet, it is possible under certain geological and other conditions that a very large amount of labour could be saved by a battalion in the line.

It is hoped that the simple methods here described might, under conditions where it is feasible to supply water at all in the trenches, go far practically to eradicate water-borne disease from an army fighting under modern conditions.

E. R. GRIEVESON, M.B., Ch.B. Edin.

THE United States War Department has decided to extend the system of psychological examinations to all enlisted men and newly commissioned officers. Specially equipped buildings will be provided in each army cantonment, and a school of military psychology established at Fort Oglethorpe, Georgia. The object of the tests is to help in weeding out the mentally incompetent and classifying men according to their mental capacity.