tight stricture of the intestine, so low down as the junction of the sigmoid flexure and the rectum, is compatible with the occasional passage of faecal masses of normal size and shape. Dr. Stephen Mackenzie, in his essay on Annular Stricture of the Intestine, published in the JOURNAL, May 31st, makes the following observation: "The fact that full-sized, properly formed faeces are occasionally passed, of course shows there can be no organic stricture (of the colon)." This statement is directly contrary to my experience. About twelve months ago, I saw an elderly man with Mr. Herbert Bracey of this town. He was suffering from intestinal obstruction. A solid motion which he had recently passed was shown to me; it was of normal shape and size. I was able to reach an annular stricture at the lower extremity of the sigmoid flexure. I sent the man into the Queen's Hospital at once. My colleague, Mr. Furneaux Jordan, performed left lumbar colotomy, if I remember rightly, the day after the patient's admission. The man died in a day or two, and an annular stricture of the intestine was found, at the necropsy, in the position I have indicated. It seems to me that the shape of the faeces, in cases of stricture of the colon or rectum, depends more upon their consistence than upon the size of the stricture. The consistence of the faeces may be such that, although solid, they may be slowly driven through the narrowed gut and subsequently become moulded into a faecal mass of normal circumference in the portion of bowel below the stricture. A case reported by Dr. Walters in the JOURNAL for May 31st illustrates my point. A woman, aged 62, had "annular scirrhus stricture at the junction of the sigmoid flexure and rectum". "Sometimes, the evacuations were not larger than the little finger; at others, large bulky motions would be passed". While the passage of flattened or pipe-stem-like motions is suggestive of stricture near the lower outlet of the bowel, their absence and the passage of faecal masses of normal calibre does not prove the absence of such constriction. I notice that two recent authorities avoid making an unequivocal statement as to invariable narrowing of the faeces in these cases of intestinal stricture. Dr. Bristowe (Reynolds's *System of Medicine*, vol. iii, page 75) writes: "If, however, the obstruction be in the vicinity of the rectum, solid motions generally soon assume a narrow tape-like or pipe-like form." Niemeyer (*Practical Medicine*, American translation, 1873, vol. i, page 568) observed: "In the ordinary forms of constipation, sausage-shaped faeces, of extraordinary size, are often passed; in stricture of the intestine, on the contrary, particularly when seated in the lower part of the intestine, they often have a very small calibre." I see that Dr. Leichtenstern, in his elaborate essay on intestinal obstructions (Ziemssen's *Cyclopaedia*, vol. vii, page 517), is careful to say that flattening, lead-pencil-like shape, etc., of the faeces only occurs in many, he does not say in all, "cases of constriction of the rectum and colon". My proposition is, that stricture in these situations may exist without this alteration in the shape of the alvine evacuations. The converse, that this alteration in shape may occur without stricture, is pointed out by Dr. Leichtenstern and other writers. He says that this change of faecal form may appear in cases of "starvation-intestine", and also in some instances of "violent rectal tenesmus"; but he does not state, as I do, that the passage of a motion of healthy bulk may occur even when there exists serious constriction of the lower part of the bowel, if a sufficient space remain above the anus for the evacuation to become moulded into a normal shape.

TREATMENT OF INTESTINAL OBSTRUCTION BY EXPLORATION OF THE ABDOMEN.

By T. PRIDGIN TEALE, M.A., F.R.C.S.,
Surgeon to the Infirmary, Leeds.

I HAVE read with interest in the JOURNAL of May 31st Mr. Messenger Bradley's address on the "Treatment of Intestinal Obstruction".

From his criticisms I feel convinced that he has not read my original paper in the BRITISH MEDICAL JOURNAL of January 11th, 1879. Had he done so, he would not have said "though six cases are alluded to, the only record which I have of his paper details, and that imperfectly, but one"; whereas I gave four cases at least with details as complete as I deemed necessary for my purpose. In using the word "obstruction" I meant not merely constipation, which may exist for many weeks with impunity, but obstruction to the passage of flatus, which immediately imparts danger to such a case. This was present in all my cases.

Again, Mr. Bradley would not have said of Case 6, "some obstruction, the nature of which is not particularised"; whereas my words are "that about eighteen inches of the lower part of the jejunum was black from congestion", and that "I concluded that the black portion of intestine was in a state of enteritis, and on the verge of gangrene".

Again, he says "Mr. Teale resorted to a number of small incisions, through which flatus escaped"; my paper says "I made a quarter of an

inch puncture at each end of the protruded intestine, and caught in a bowl about two quarts of grumous intestinal fluid, and also let off a large quantity of flatus".

Mr. Bradley says "the patient lived for nine days, which seems to have surprised Mr. Teale very much". No doubt I was surprised, seeing that before the operation I did not think that the patient could live unrelieved twenty-four hours, and that the operation disclosed a foot of intestine almost gangrenous.

Mr. Bradley is still haunted by a fear of peritonitis, shutting his eyes to the teaching of hernia, the teaching of modern ovariectomy, and the teaching of the cases of exploration of the abdomen published by others and by myself.

The object of my paper was to reduce the dread of peritonitis to what I believe to be a more true position in the treatment of intestinal obstruction, and to maintain, that in those cases in which recovery seems hopeless, unless surgical relief can be given, we need not be deterred by the fear of peritonitis from submitting the patient to "the safer risk" of exploration.

I claim that as far as they go my cases support this object. Six are recorded. Three of the patients proved to be so exhausted as to be in a hopeless state. In one there was a burst bowel; in a second an abscess had burst amongst the intestines; in the third the intestines were obstructed by and studded with cancer. In none of these was there any question of setting up peritonitis. They form no argument, *quâ* peritoneum, either for or against exploration. A chance of recovery was neither given nor taken away.

Let us examine the three remaining cases. In all there was a healthy peritoneum. In all the nature and seat of the obstruction was unknown. One recovered completely. A second was free from peritonitis for nine days, until in a fit of coughing the abdominal wound was burst open, an accident which would in all probability not have happened had my attempt to relieve the obstruction by colotomy been successful. The third had no sign of peritonitis as a result of the operation, but died on the ninth day from bursting of the bowel and escape of faeces into the peritoneal cavity. In none of these cases did peritonitis prove the rock on which the case was wrecked.

It must needs be that, in the present state of "peritoneal surgery", exploration of the abdomen should be reserved, and rightly, for the most hopeless cases of intestinal obstruction, such as were all those which I have reported. Many will prove to have been hopeless from the beginning, some will prove to have been submitted to operation too late, a few will recover as a direct result of the operation. As we gain experience and confidence in our means of diagnosis and treatment, we shall rescue from death some of the cases now lost by delay. Is it too much to hope that we are now marching by means of failure onward to success in "peritoneal surgery"? May we not take a lesson from the position of ovariectomy of the present as compared with ovariectomy in the past?

One word more. Case No. VI in my paper, seems to point the way to dealing with distension of the intestines, one of the most formidable and dangerous factors in obstruction of the bowel. If further experience should confirm the teaching of this case, that we can effectually empty of gas and fluid distended intestines, and that intestines so emptied do not rapidly, if ever, regain their state of distension, we have therein the key to the successful treatment of an important class of fatal illnesses.

Leeds, June 1879.

CANCER OF THE RECTUM TREATED BY EXCISION.

By W. H. CRIPPS, F.R.C.S.,
Surgeon to the Great Northern Hospital; Assistant-Surgeon to the Royal Free Hospital.

EXCISION of the diseased portion of the bowel for cancer of the rectum has, since the time Lisfranc, found much favour with foreign surgeons. The operation had, however, fallen into disfavour in this country, and has only been revived during the past few years. In cases judiciously selected, this method of treatment is of the greatest value, both as regards relief from suffering and prolongation of life. But to suppose that it is applicable as a method of treatment in every case of rectal cancer is as unreasonable as the assumption that cancer should be removed by operation wheresoever situated. The operation cannot be considered in any way to rival or supersede colotomy, for as a rule it is applicable as a method of treatment for cases in which colotomy is scarcely admissible. Colotomy is a most valuable operation when the cancer is situated higher and causes obstruction or intense pain; while, on the other hand, for excision to be successful, the disease must strictly

be confined to the lower part of the bowel. No operation should be attempted unless there be a fair prospect of removing the whole disease; and this cannot be done unless the upper limit of the growth be fairly defined with the finger. Again, the disease must not have invaded the neighbouring tissues to an extent likely to interfere with its complete extirpation. Rather longer portions of the bowel can be removed from men than from women. As a rule, however, four inches is the limit that can be safely removed.

Rectal cancer almost invariably begins as an adenoid deposit in the submucous tissue. The microscopic structure of the growth bears an exact resemblance to the natural Lieberkühn's follicles in the superjacent tissue. If the growth be slow, this resemblance in structure is very perfect; if more rapid, the general plan of an adenoid structure can be traced, but neither the epithelium lining the follicles nor the retiform tissue in the interfollicular spaces can be well defined; there is no regularity in the shape of the epithelial cells, indeed, they rather resemble strips of protoplasm with longitudinal striæ than distinct columnar cells. Again, the fibrous element of the retiform tissue is represented by spindle- or oat-shaped cells rather than by the distinct fibrous structure found in more chronic growths. At first, the mucous membrane is intact over the growth, which can be felt like a foreign body beneath it. It commonly spreads as a thin layer between the mucous and muscular coats; and not uncommonly will the disease thus spread under several square inches of mucous membrane, while its thickness scarcely exceeds one-fifth of an inch; at other times, but more rarely, the disease increases more rapidly in thickness, pushing the mucous membrane inwards, producing a distinct tumour in the cavity of the bowel. Sooner or later, ulcerative action sets in. At first, the mucous membrane over the centre of the mass is destroyed, exposing the subjacent growth. Now, if this subjacent growth exist as a thin layer, it also is destroyed by a continuation of the ulcerative action. It thus not uncommonly happens that a deep ulceration is produced, the base of which, towards its centre, is composed of the remains of the hypertrophied muscular coat blended into a dense cicatricial tissue with the fibrous element of the part. Towards the margin of the ulcer the growth is again apparent, forming a prominent overlapping margin. From points of this margin fungating masses will in time project into the rectum, in which condition the disease usually comes under observation. Space, unfortunately, forbids a minute description of the histological appearance of these growths. The so-called scirrhus, medullary, and epithelial growths are merely "conditions" of adenoid disease, and can be accounted for by taking into consideration the time the growth has been in existence and the particular tissue affected. The appearance commonly regarded as indicative of scirrhus, medullary, or epithelial disease can all be found in various parts of the same specimen.

My experience of the operation of extirpation is too limited to express an opinion as to the rate of mortality likely to follow; and in the majority of cases the operation has been too recently performed to judge of the liability of the disease to return. In five cases in which I have operated, no death has occurred; while in nine operations at which I have assisted, two deaths resulted: one from peritonitis, one from collapse. The best result with which I am conversant is a case in which a well marked cylindrical cancer was removed nearly three years ago; the patient still remains perfectly well. The two following cases may perhaps serve as examples of what may be expected from the operation. A successful and an unsuccessful case have purposely been selected as illustrations.

CASE I.—A. M., aged 61, being kindly sent to me by my friend Mr. Doran, was admitted under my care at the Great Northern Hospital in April 1878. She was very thin and emaciated, and for some time had been unable to follow her occupation as a laundress. For more than a year, she had suffered discomfort in the rectum, and had lost blood from time to time, a mucopurulent discharge being persistent. During the last few months, the pain had greatly increased, her nights were sleepless, she was tormented with a constant desire to go to stool. She suffered from alternate attacks of diarrhoea and constipation, and could not retain her feces when liquid. On examination with the finger, commencing just within the anus and extending upwards a couple of inches, an ulcerated mass of cancer was felt. This did not completely surround the bowel, a small portion of the anterior wall being free. The patient being placed under chloroform, and in the lithotomy position, a curved bistoury guided by the finger was introduced into the rectum, the point then thrust through the posterior rectal wall, and made to emerge at the tip of coccyx; the tissues intervening between this point and the margin of the anus were cut through with a clean sweep. The sides of the wound being held apart by the folds of the nates being forcibly drawn outwards, a semilunar incision was made at right angles to the first cut; this, the second incision, was just within the margin of the anus, and extended completely round the bowel,

while in depth the point of the knife was carried well into the fat of the ischio-rectal fossa. The lateral and posterior attachments of the bowel were separated by the forefinger with the sparing use of the cautery and the knife. The dissection of the anterior wall was made more carefully and entirely with the knife. The free portion of the bowel was now seized and drawn down with a moderate amount of force, and cut through just above the disease by means of the benzoline cautery. No attempt was made to draw down the bowel, neither were any sutures or dressings used. The patient made a quick recovery, leaving the hospital in three weeks free from all pain, with some control over her motions, and her general health greatly improved. Three months after this operation, she had complete control over the motions, except when she had diarrhoea, at which times her linen would be a little stained. She complained of no pain, but of a slight itching sensation. Upon examining the parts, there was found a small rose-coloured elevation, of the size of a split pea, upon the anterior margin of the mucous membrane. This was snipped off pretty freely with scissors. Since then, the patient has been frequently seen; she suffers no pain whatever, has not the slightest symptom of any return of the disease, and states that she enjoys better health now (June 16th, 1879) than for many years past. When she has diarrhoea, however, she has to wear a diaper; this causes her no inconvenience. It is now one year and two months since the operation.

CASE II.—A. G., aged 54, a small emaciated woman, with a dark complexion, was admitted into the Royal Free Hospital, November 7th. She has six children living, in good health, and has lost none. The father and mother died at advanced ages; there was no family history of tumours or phthisis. The patient had good health until two years ago, but has always been subject to constipation, for which she has taken castor oil in considerable quantities. Two years ago, she began to suffer from pain and a feeling of weight in the rectum. Eighteen months ago, she first noticed a discharge of blood and mucus from the bowel. During the past year, she has lost flesh rapidly, having formerly been very stout. She had been for some months in a London hospital, but obtained no relief. Her sufferings were very great; she had lost control over the sphincter, the feces escaping without her knowledge. Upon examination, the parts were found to be very tender, with a growth extending almost to the margin of the anus, about which the skin was cedematous and excoriated. A considerable mass of disease occupied the lower three inches of the bowel, taking the form of a large irregular ulceration with a hard base and fungating margins. At one point, the disease extended somewhat higher than three inches. The rectovaginal septum was implicated, but the mucous membrane on the vaginal aspect appeared sound.

Considering the length of time that the disease had existed, and the extent to which it had encroached on the anterior wall of the rectum, it did not seem a very favourable case for operation. The patient, however, was exceedingly anxious to have an attempt made to remove it, having been recommended to consult me for that purpose by my friend and colleague Mr. Macready. The operation was performed in an almost precisely similar manner to that in the previous case. There was no difficulty in detaching the bowel from its posterior and lateral connections, but it required some time and caution to dissect through the rectovaginal septum; this was done by keeping as near as possible to the mucous lining of the vagina; but even at the time there appeared a suspicion that the disease at this part had not been thoroughly removed. Whilst detaching the upper anterior part of the rectum, the peritoneal membrane was distinctly seen. The diseased bowel being drawn down was cut off with a wire *écraseur* a little more than three inches from the anus. Upon detaching the portion, a small coil of intestine was seen in the upper part of the wound, but it was not known at what period of the operation the peritoneal membrane had been opened. The knuckle of bowel was gently pressed up by the finger and disappeared. The wound was treated in the ordinary way, without any dressings or sutures, and kept thoroughly free from all discharge by frequent syringing with warm carbolic lotion. The patient never had a symptom of peritonitis, recovered quickly, and left the hospital at the end of the month free from all pain and much stronger and more comfortable than she had been for a long time; she had no pain on passing her motions, over which she had a fair amount of control. She appeared well and comfortable for three months; she then complained of some irritation about the part, and upon examination a soft fungating nodule could be felt springing from the anterior wall of the rectum. She suffered little pain. A month later, the disease had greatly increased, forming a considerable fungoid mass, blocking up the lower end of the rectum, causing some difficulty in passing her motions. It did not seem advisable to make any further attempt by a cutting operation; but, acting as other surgeons have done in these circumstances, as far as I could with the finger-nail and a blunt gouge, I scraped away the cauli-

flower mass down to its hard base. The growth was very soft, but did not bleed much. She was greatly relieved by this proceeding, the motions again passing with comparative ease. A rapid return is, however, inevitable.

The microscopic appearances of the growths in both the cases narrated were identical, the difference in result being probably due to a more thorough extirpation being possible in the first case.

Various methods of performing the operation of extirpation of the rectum have been practised. The ligature, the cautery, and the *écraseur*, either singly or combined, all have their advocates. From my own experience, however, these various adjuncts appear to be unnecessary. They greatly prolong and complicate an otherwise simple operation. The free and quick use of the knife for all the first part of the operation, reserving the wire *écraseur* for the final separation of the bowel, appears to me to be the best plan of operating. The preliminary posterior incision of Denonvilliers is of the greatest service during the operation, and completely unfolds the parts and gives plenty of room for dealing with hæmorrhage, while it subsequently affords perfect drainage to the wound. No good results from the drawing down of the cut bowel and stitching it to the cutaneous surface; the stitches always give way, and until they do so are a source of danger, by allowing matter to be pent up behind the bowel. I use no dressing nor sutures of any kind whatever; for anything that hinders free discharge is deleterious, owing to the near neighbourhood of the peritoneum and the rapid decomposition that takes place in this part of the body. A frequent gentle and thorough syringing, so as to prevent any accumulation in the wound, is probably the best way of preventing peritonitis.

SURGICAL MEMORANDA.

ANNULAR STRICTURE OF THE INTESTINE.

IN the JOURNAL of May 31st, in the instructive account of annular stricture of the intestine, by Dr. Stephen Mackenzie, I find the following statement: "The fact that full-sized, properly formed feces are occasionally passed, of course shows that there can be no organic stricture;" and, five pages further on, in the description of a case of colotomy, by Mr. J. Walters, we are told: "In stricture in this region, no positive reliance can be placed on the size of the stools." As both authors are writing about the symptoms of obstruction of the colon, there appears to be a marked discrepancy in their opinions.

In his *Observations on Diseases of the Rectum*, Mr. Curling mentions a case of stricture at the sigmoid flexure, in which the bowel below the stricture had undergone extraordinary dilatation; and it appears possible that, in such a case, we might have fully formed evacuations.

As the other authorities to which I have access direct their observations, in this connection, chiefly to the diagnosis of stricture in the lower part of the rectum, I should like to elicit further light on this subject, as it appears to me to have important bearings.

R. E. HEATH, M.D., Torquay.

VESICAL CALCULUS IN A GIRL.

A YOUNG girl, aged 17, rather deaf, and of weak intellect, had paid two or three visits to the infirmary here, as out-patient. She complained of great pain in micturition, and I treated her for irritable bladder, with considerable relief to her symptoms. Subsequently, her friends sent for me, late at night, to visit her at home, as her pain had returned with increased severity. I now introduced a sound, and at once detected a calculus at the neck of the bladder, which could also be easily felt *per vaginam* and *per rectum*. Giving her a suppository for the night, I promised to return and operate the next day. Dr. Brown, at present acting as *locum tenens* for the house-surgeon, having kindly administered chloroform, I dilated the urethra with the three-bladed dilator; a sponge-tent, previously introduced, having been ejected after half an hour, owing to the involuntary expulsive efforts of the patient. The stone appearing large, a lithotrite was at hand, but this was not required, as the calculus broke up in attempting to grasp it with forceps. On removing the broken pieces, I observed that they consisted of phosphates exclusively, and, on introducing my finger into the bladder, I at once felt something to the touch resembling a piece of wire. On calling Dr. Brown's attention to this, he suggested that it might be a hair-pin, which, on removing it from the bladder, it was seen to be. The pin was very rusty, and, here and there, phosphatic deposits were attached firmly to it. The portions of calculus removed by the forceps alone weighed half an ounce. A good deal has come away since, by the urine, and after washing out the bladder.

J. J. S. JOHNSTONE, M.D., Gloucester.

SELECTIONS FROM JOURNALS.

MEDICINE.

A RARE FORM OF DIPHTHERITIC PARALYSIS.—Dr. Dahlerup describes (*Ugeskrift for Læger*, 3rd series, vol. xxvi) the case of a boy aged 12, who, ten or twelve days after recovering from an attack of diphtheritic angina, was seized with difficulty of breathing, which increased to severe dyspnoea at the end of fourteen days. On examination, there was found to be orthopnoea, cyanosis, oedema of the feet, and moderate oedema of the lungs. The heart-beat was somewhat quickened, irregular, and very weak; the area of cardiac dulness was not increased. The heart-sounds were distinct. The pulse was rather feeble. The urine contained a large quantity of albumen. Under the use of digitalis and stimulants, there was slight improvement at the end of a week; the dyspnoea then increased, as did also the oedema of the extremities and lungs; and the patient became collapsed, and died. The temperature at no time of this illness rose above 98.6° Fahr. Dr. Dahlerup believes the case to have been one of progressive diphtheritic paralysis of the heart.

A RARE FUNGUS GROWTH ON THE HAIR IN THE AXILLÆ.—Dr. Axel Key describes the following case in the *Hygieia* for 1878 (quoted in *Nordiskt Mediciniskt Arkiv*, Band xi). A gentleman had for some time noticed that the hair in his axillæ stuck together, in consequence of being covered with a glutinous substance. The sweat of the axillæ coloured his shirt bright red. His condition in other respects was normal. On examination, Dr. Key found the axillary hairs greatly adherent; and a large part of them were covered with a gelatiniform substance like mildew. This had its seat on the free ends of the hair, where it formed partly isolated or confluent swellings, and partly bands like chains of pearls, or an adhesive mass surrounding the hairs. There were no changes in the skin. Microscopic examination showed that the changes were dependent on a peculiar fungous vegetation, which had a brimstone yellow colour by transmitted light. The development of the vegetation commenced in the form of small, slender, exceedingly delicate scales, which soon formed small round elevations, apparently homogeneous, but containing numerous small glistening spores. The scales seemed partly to lie on the outside of the hair, but for the most part the vegetation penetrated between the outer layer of the epidermis covering the hair. Here and there, the vegetation could be traced to the interior of the hair. No mycelium was found. Dr. Key has not been able to find a similar case recorded in dermatological literature. Buhl alone has described in the *Zeitschrift für rationelle Medicin*, Band iii, a new hair-fungus apparently like that described above; he calls it *zoogloea capillarum*. The disorder would, therefore, seem to be very rare.

DEATH CAUSED BY AN ASCARIS LUMBRICOIDES IN THE UPPER AIR-PASSAGES.—Dr. Fürst has published, in the *Wiener Med. Wochenschrift* for 1879, a summary of twenty-four cases of immigration of ascarides into the upper air-passages, from which we quote the following case. A girl, aged 4, had been received into Professor Billroth's hospital for congenital ectopy of the bladder. One evening, she suddenly had an attack of suffocation. Thinking that she must have aspirated some foreign body, the author explored the larynx without any result, and then performed tracheotomy, as she had suddenly ceased to breathe. As no cannula was at hand, a male catheter was introduced into the wound, but met with some obstacle. It was drawn out and then pushed in again, when it went in quite smoothly. Artificial respiration was then resorted to, but the child died. Two hours after death, a female live ascaris, about nine-tenths of an inch long, was seen hanging out of the nostril. It is evident that the catheter had been prevented from penetrating into the trachea by the worm, who probably then changed its position and wandered upwards. The *post mortem* examination revealed a male *Ascaris lumbricoides*, nearly half an inch long, in the jejunum. The author gives the following clinical sketch of the *modus operandi* of the immigration of ascarides into the air-passages. As far as concerns the etiology, vomiting, fever (as a high temperature always quickens considerably the movements of the ascarides), purgatives, abstinence from food—may all be looked upon as favouring the immigration into the larynx. Children are more liable to it than adults. The symptoms are not always the same; sometimes the worm sticks in the glottis, and such cases naturally invariably end fatally within a very short time. At other times, the worm passes the rima glottidis, when the patients die of bronchitis in the course of a few days. The majority of the cases that have hitherto come under observation belong to the first class. The patients become aphonic and asphyctic; occasionally