Seeing that the calibre of the bowel is narrowed, often, as in the case of the woman I have narrated, to such a degree that it is not larger than an urethra, and that all the troubles arise from an accumulation of faeces behind the point of obstruction, and the secondary changes thereby induced in the bowel, the principle of treatment must be, never to allow solid faeces to form. The contents of the bowels must be kept fluid and not suffered to accumulate, but must not be hurried on to such a degree as to interfere with absorption. The saline purgative I usually employ is Carlsbad salts, which, from their uniform constitution and portability, offer the greatest advantages. The waters of Friedrichshall, Pullna, or Hunyadi János are extremely efficient for the purpose. For poorer patients, I use Glauber's salts (sulphate of soda), with almost equally satisfactory results. As regards dosage, each case requires study. Usually, a drachm or two drachms of Carlsbad or Glauber's salts given, on rising, in warm water, keeps the bowels sufficiently loose to enable the faeces to pass and to prevent accumulation. The patients must have explained to them the nature of the case and the imperative necessity of keeping the bowels loose, otherwise they will try to do without the medicine in the belief that they will gain benefit by so doing. Sometimes it is diarrhoea and not constipation which has to be treated. This is most effectually controlled by bismuth in full doses, combined with ipecacuanha and opium in small doses, which soothe the inflamed and often ulcerated condition of the bowel on which it depends. Patients must be advised to live on easily assimilable food which makes but little faeces, and cautioned to avoid food which tends to produce flatulence; and especially enjoined against the use of drastic and hydragogue cathartics. When these injunctions are scrupulously followed out, it is surprising with what little disturbance to the general health, and with what little discomfort, life may be sustained. To what length it may be prolonged, I am not in a position to say; but, seeing the slow rate of progress of the growth, the little hindrance it offers to digestion and absorption, and the degree of contraction which may exist whilst the patient is going about and performing his or her daily duties, I think I am not going beyond reasonable probabilities when I say that, I expect the patient may be spared some years of life. How this would be terminated in cases in which the diagnosis was made, and appropriate treatment carefully pursued, I cannot affirm, as the diagnosis in those cases is usually made *after death*. Death might occur eventually from complete stenosis (unless an artificial anus was made), from the cachexy or infection of the system, or precipitated by some intercurrent disease. These are mere speculations. My purpose has been to point out how the disease may be recognised, and its usual and fatal effects warded off.

TWO CASES OF INTESTINAL OBSTRUCTION TREATED BY ABDOMINAL SECTION.

Communicated by T. CLIFFORD ALLBUTT, M.D.,
Physician to the Infirmary, Leeds.

THE discussion on Obstruction of the Bowels and its Treatment in the Medical Section of the Association last year has been provocative of much useful discussion. I venture to communicate two cases of obstruction of the bowels in which abdominal section was performed. The cases were related to me by Mr. Ockley, assistant to Mr. Dowse, of Skelmanthorpe, under whose care the cases were, and who operated successfully in one of them. The narratives are as follows.

CASE 1.—John E., aged 60, a tailor, came under my (Mr. Dowse's) care on April 21st, 1877, at 4.30 P.M. On arrival, I found the patient suffering excruciating pain in the left side, and, upon inquiry, was informed he was suddenly attacked with the pain two days previously, about 2 P.M., after having eaten a hearty dinner. He described it as if something had fallen in his inside; it was accompanied with faintness and vomiting, but passed off after a short time. To-day, the pain and sickness were more severe and continued. Temperature 100; pulse 82. The bowels were evacuated on the evening of the 19th; he had no motion since, although he had taken opening medicine (castor-oil, etc.), which had all been vomited back. On examination, there was a hard knotty tumour on the left side, high up close to the short ribs, which I thought might be either intussusception of the bowel, or perhaps some undigested food which had lodged there. I ordered ice, soda-water, and milk, bismuth mixture with henbane, extract of belladonna, and powdered opium (of each half a grain); and a large linseed-meal poultice in which was belladonna liniment with plenty of lard, to be changed every three hours.

April 22nd. He was rather better, and had not so much pain. The tumour had shifted rather lower, and, as the bowels had not been relieved, I ordered an enema of warm water and soap. The other treatment was continued.

April 23rd, 9 A.M. He was worse; his face had a very anxious fretful appearance; there were more vomiting and pain, always in the same place; pulse 110, weaker; temperature 100 deg. The tongue was rather furred for the first time. He was ordered iced brandy and soda-water, and to continue the poultices, belladonna, etc. The pupils were normal. 3 P.M. At noon, stercoraceous vomiting commenced, and continued every half-hour. I gave an enema of clean water, which came away without the least sign of faeces, and no smell whatever. I gave a hypodermic injection of morphia, and advised the friends to send for Dr. Kilner Clarke of Huddersfield in consultation. 10.30 P.M. Stercoraceous vomiting continuing and coming on every few minutes, the pulse being much weaker, Dr. Clarke proposed operation as the last chance. The abdomen was tender over the part where the pain commenced, and where the lump was felt, and was less swollen on the left side than on the right. He was passing very little urine.

The patient being well under chloroform, the obstruction was found at the commencement of the jejunum, in the form of a stony concretion about the size of a pullet's egg. As it could neither be passed forwards nor backwards, it was removed through a longitudinal incision in the bowel (this substance was unfortunately lost). The bowel was so much thinned from pressure that, although it was well stitched with carbolised catgut (the glover's suture being used), it would not hold together. The patient died about 3 A.M., or four hours after the operation.

Query.—Would this case have done better if the operation had been performed sooner?

CASE II.—George W., aged 56, a sailor, came under my care on August 21st, 1877, at 8 P.M. For about a month, he had been suffering from constipation and difficulty in passing his stools; when he did so, it was in short flat pieces like tape, and always with much straining. Sixteen or seventeen years previously, he had suffered from inflammation of the bowels; since then, he had always more or less difficulty in passing his stools. For the last fortnight, he had passed two stools. The bowels were very much distended, with clear tympanitic percussion all over, occasional paroxysmal cramping all over the abdomen, dullness over the left iliac fossa; and here the patient always pointed as the continual seat of his difficulty. I ordered belladonna, opium, nux vomica, and calomel, in pills; bismuth mixture with prussic acid; ice; soda-water and milk; and belladonna poultices frequently.

August 22nd, 10 A.M. He was much worse, stercoraceous vomiting having come on during the night; and, as the patient was evidently sinking, I advised an operation. At 3 P.M., the bladder having been emptied, in which there was only a small quantity of urine, the body was opened through the linea alba, and I passed the finger in the direction indicated by the patient, and I found two bands of lymph across the bowel close to the sigmoid flexure. On dividing these, the bowels were almost instantly relieved of a large quantity of accumulated faeces.

August 23rd, 7 A.M. The patient was much better; pulse 92, temperature 100 deg. He had two loose motions during the night. He was ordered to take a good nourishing milk-diet.

This patient made a good recovery from the operation, but died some time afterwards from rupture of a blood-vessel whilst coughing.

TREATMENT OF INTESTINAL OBSTRUCTION.*

By S. MESSENGER BRADLEY, F.R.C.S.,
Surgeon to the Manchester Royal Infirmary, and Lecturer on Practical Surgery in Owens College.

THE important question, "How to deal with doubtful cases of intestinal obstruction", suggested for debate at the last meeting of the British Medical Association, by Mr. Jonathan Hutchinson, was not seriously taken up until Mr. Pridgin Teale adopted the opposite side, at a meeting of the Yorkshire Branch held in Huddersfield last November.

Mr. Hutchinson advanced the argument that exploratory incisions, in cases of doubtful diagnosis, are unjustifiable; while Mr. Teale contends that such exploratory incisions are wise and proper measures to adopt, and even looks forward to a time when "peritonitis—traumatic, ovarian, or puerperal—will be treated by opening and washing out the abdominal cavity and emptying the intestines".†

In this present paper, besides offering a general support to Mr. Hutchinson's argument, I would desire specifically to formulate the following propositions. 1. Exploratory incisions, in cases of doubtful diagnosis, are unjustifiable; 2. Acupuncture is an inefficient and even dangerous remedy; 3. Cases of intussusception should, with rare exceptions, be left to nature.

I take it for granted that, in cases where the diagnosis is not doubt-

* The substance of an address delivered before the Manchester Medical Society.
† BRITISH MEDICAL JOURNAL, Jan. 11th, 1879.

ful, neither is the treatment doubtful: *e. g.*, that when we are able to decide upon the existence of an internal hernia, or upon a constriction by bands, or upon the existence of a volvulus, the plain duty of the surgeon is to open the abdomen and to release, if possible, the captive bowel. To these cases I do not here refer, but confine my remarks entirely to instances where the symptoms do not justify a positive decision. Thus, it is manifest that the question becomes, in a great measure, a question of diagnosis. Let us, then, briefly consider the means at our disposal for coming to a conclusion in these difficult cases. The classical signs on which we have to rely are pain, vomiting, and (apparently) insuperable constipation. Now, these symptoms are not only vague, but in the highest degree misleading. They may each and all be present without intestinal obstruction, and each be absent when intestinal obstruction exists, though not perhaps all at the same time. Mr. Hutchinson dwells forcibly upon the doubt which often surrounds these cases, and gives examples how, in spite of every care, mistakes arise. It is not, perhaps, necessary to multiply illustrations of this nature; but I may briefly allude to two instances where I have been misled.

The first case was that of a dog, belonging to Mr. Thomas Windsor of this city, that I saw with him about six years ago. All the usual signs of obstruction were present: pain, vomiting, constipation, to which tympanitis was soon added. Knowing that dogs are somewhat prone to internal hernia and invagination of intestines, Mr. Windsor (who almost unceasingly watched the case) came to the conclusion that there was obstruction, and accordingly opened the abdomen. Nothing of the kind, however, existed; and Mr. Windsor, out of pity for the sufferings of the creature, destroyed it the same day. On examination, it was found that all the symptoms proceeded from an attack of enteritis.

The second case was that of a middle-aged man I saw lately, with Mr. H. M. Williamson, in whom symptoms of obstruction had existed for upwards of a fortnight. Mr. Williamson had passed an O'Beirne's tube, but encountered, he thought, some obstruction in its thorough introduction. There was troublesome vomiting of a fæculent character, and the patient was apparently becoming steadily worse. The symptoms had come on somewhat gradually, and he informed us that, years before, he had a somewhat similar attack, though not of so prolonged a character. In spite of this assertion, both Mr. Williamson and I were so impressed with the actual existence of mechanical obstruction, that we advised his removal to the Infirmary, where it was decided I should perform colotomy the following day. The man, however, never came; and, on meeting Mr. Williamson some weeks later, he informed him that nature had anticipated our interference by a copious evacuation, and that the man was quite well again.*

It will, indeed, probably be conceded by the advocates of exploratory incision, that the abdomen must often be opened when no obstruction exists, so that the question at once arises: Is this an error of any gravity? Now, Mr. Teale would have us believe that, with proper precautions, it is not a very serious matter; but I am, for my own part, inclined to regard it as one of the most serious things that can happen to a man. From what I have seen, I should judge the risk of peritonitis to be a very immediate and terrible one, and indeed I cannot recall a single case in which I have seen the abdomen opened to relieve intestinal obstruction that has not terminated fatally, though, I am able to add, I cannot recall a single case (with the exception of the dog before-mentioned) in which such operation was undertaken without discovering the existence of mechanical obstruction. I might quote, as illustrative of the extreme peril of even slight peritonitis in these cases, the history of a man under my care at this Infirmary last year, where the symptoms were so definite and clear that we felt no doubt as to the diagnosis, and therefore performed laparotomy. In this case, a knuckle of bowel was found strangulated at the internal abdominal ring; it was readily found and readily released. No case could have looked more favourable for a happy issue, yet this patient died within twenty hours; and, as *post mortem* examination proved, there was no pathological apology for death beyond a slight splash of peritonitis. It is true that antisepticity may do something towards averting this tendency, but it will not always avert it; and, even if putrefaction and consequent septicæmia be kept away, still peritonitis may occur, just as peritonitis occurs without any external wound at all.

I might mention a more recent case, in which I a fortnight since opened up the inguinal canal to seek for the site of strangulation in a case of a hernia reduced *en bloc*. Here also the stricture was at the internal ring, but the bowel was sphacelated, and did not admit of return. An artificial anus was consequently formed, and the stricture divided. The man went on well enough up to the sixth day, when he

suddenly died, with a low temperature and having suffered no pain. All that was discovered after death was a slight smearing of recent lymph upon some loose-lying coils of intestine. There was no putrefaction, and no fluid in the abdominal cavity.

I am not, from such limited number of cases as I have seen, going to attempt inductively to build up any general principle; but I think we may fairly deduce the fact that laparotomy in these cases is especially dangerous, on account of the tendency to inflammation which exists and the danger with which such inflammation is fraught. It is not correct to liken the operation to ovariectomy. Here, as I have heard Dr. Thorburn paradoxically say, the worst case is often the best—the explanation being that these worst cases have often been subject to repeated attacks of peritonitis, which, from the adhesions to which they give rise, constitute an element of difficulty in operating; but, at the same time, in the rough usage to which they have subjected the peritoneum, constitute an element of safety. Again: laparotomy seems to me to differ *toto calo* from ordinary herniotomy; in the latter, the opening in the peritoneum is very small, the time of exposure short, the handling of bowel and peritoneum almost *nil*; in the former operation, we have exactly opposite conditions, every one of which materially enhances the danger: the opening is large, the search often difficult and tedious, and consequently the exposure long-continued, and the handling of the bowel and peritoneum necessarily severe.

I would not, however, condemn the general adoption of exploratory incisions by my own impressions of the great liability to, and danger of, sequential peritonitis; but would also invoke the evidence afforded by some of the very cases which the advocates of the operation cite in support of this theory. Mr. Bryant, for example, in the *Lancet* for May 25th, 1878, relates a case at length, in which he performed enterotomy in the right groin for the relief of doubtful obstruction. I will quote from the report itself.

"William B., aged 57, admitted into Guy's Hospital on February 5th, 1877, for constipation, sickness, and violent abdominal pain. His family history was good, and he himself had always been healthy until his present illness, which came on, some six months before admission, with vomiting and violent abdominal pain; the abdomen also became hard and swollen. From this time up to Christmas, these attacks recurred periodically, generally about once a week—the bowels being always constipated. Since Christmas, the attacks had been more frequent—twice weekly or more. The vomit had a fæcal odour. He took many powerful purgatives, but none opened his bowels freely. On an average, he had a motion *naturally* about every four days." His condition continued much the same till April 29th, when Mr. Bryant performed right inguinal enterotomy. The case went on satisfactorily, and he left the hospital on August 20th. I quote the next entry from the report. "On November 26th, he came up to report progress. His general health was much improved. His bowels acted fairly well, some motions passing *per rectum*. Occasional attacks of abdominal pain. He had an instrument adapted to the opening in the groin, which collected the liquid fæces which passed, and which previously was his great trouble." Mr. Bryant comments upon the case as follows. "With respect to the nature of the case, there is much obscurity. The original one, that it was one of cancer, can hardly now be entertained, as the general health has so much improved since the operation, and, beyond the fact of the intestinal obstruction, there is no evidence of such a disease. I am disposed to think that the attacks of obstruction to which he has been subjected, and which eventually called for operative interference, will be found to be due to some peritoneal change by which the intestines had been bound together, and the passage through them, and more particularly through the small intestine, has been interfered with."

Now, what is the natural inference to be drawn from this case? According to Mr. Bryant himself, it was certainly not one of cancer—and that it was not is clear enough; but is it not almost equally clear that, with the exception of having two ani, the condition of the man in November was essentially the same as it was in April? How can this be cited as evidence in favour of exploratory incisions, when it is only an additional case to prove that the operation, if generally adopted, will often be unnecessarily performed? Take, again, the cases mentioned by Mr. Teale. I regret to say, though six are alluded to, the only record which I have of his paper details, and that imperfectly, but one. This was the case of a clergyman, whose abdomen he opened and where he found some obstruction, the nature of which is not particularised, but which is stated to have been of such a nature as not to admit of removal; and, therefore, it is difficult to see how the operation could have benefited the poor man. Difficulty being experienced in returning the distended intestines (a difficulty, by-the-by, which is a very present source of trouble in these cases), Mr. Teale resorted to a number of small incisions, through which flatus escaped, and this permitted an

* In the debate which followed I was not unnaturally criticised for apparently preaching one thing and practising another—my reply is not "*video meliora*," etc., etc., but that in this case the difficulty is even now great, inasmuch as the patient has since died with every symptom of intestinal obstruction.

easy reduction of the bowels. The patient lived for nine days, which appears to have surprised Mr. Teale very much: a feeling which I apprehend his professional brethren will very generally share.

I certainly cannot see that either Mr. Bryant or Mr. Teale, by the cases they quote, advance the validity of their argument, that the abdomen should be opened in doubtful cases; and, reflecting upon the frequency with which it must perforce be unnecessarily opened if we resort to laparotomy, and at the same time bearing in mind the great peril of peritonitis consequent thereon, I am led to say that, unless the circumstantial evidence enable us to decide, beyond all reasonable doubt, that intestinal obstruction does exist, and, further, that we can with equal confidence decide upon its nature (I mean as to its removability or not), laparotomy is unjustifiable, and therefore should be discarded.

I must pass on to say a few words about acupuncture. I think it is a very general belief of our *confrères* the physicians, that acupuncture is as perfectly safe as it is simple; but in this opinion I, as a surgeon, cannot concur. I regard it indeed as a bad operation, on the double grounds that it is inefficient and dangerous. Any relief afforded by the escape of flatus through the hollow needle must necessarily be very transient, inasmuch as the cause which produces the gas, not being removed, will quickly produce it again, so that the operation must be oftentimes repeated, and that sometimes not merely *de die in diem*, but *de hora in horam*. This in itself is an evil; for an operation, though it be but the prick of a needle, is a source of a certain amount of trouble to most patients. Equal relief is often procurable by systematic kneading, rubbing the abdomen in the course of the colon; and this method has the further advantage of occasionally inciting peristaltic action, which may prove positively curative. Acupuncture is, however, subject to a more serious objection than inefficiency: it is often found that the withdrawal of the needle is followed by the escape of a slight quantity of liquid feces along with bubbles of air, and this is very likely to engender peritonitis, which will almost certainly prove fatal. I can positively affirm that I was once the witness of this occurrence, in which the death was as clearly traceable to the acupuncture as any effect can be to any cause. For my own part, therefore, I strongly discountenance the practice of acupuncture in cases of real or assumed intestinal obstruction, and resort to methodical kneading, or the taxis, as preferable methods.

My last remarks have reference to the treatment of intussusception; but here I speak with much diffidence, as my own experience is very small. An examination of the statistics of intussusception shows decidedly in favour of operative interference; so far as I have been able to make out, the proportions are about forty per cent. recoveries in cases which have been operated on, against twenty per cent. in those left alone; but, on the other hand, the reported cases operated on are extremely few in number, and have always been, and this is no small matter, in the hands of first-class men like Hutchinson, Howard Marsh, Howse, etc. My objections to interference in these cases are founded upon the (as it appears to me) impossibility of determining whether nature is not, in the first instance, able to effect a cure by, so to speak, reversing her handiwork; or whether, if she prove unequal to this unaided, the artificial inflation of the bowels with air or gas may not give her the necessary fillip; and, lastly, whether, if even this prove insufficient, a natural cure may not still be effected by the invaginated portion sloughing away and being passed *per rectum*. I must not, however, dogmatise. I myself sadly want more light; and hope that surgeons, "older in practice, abler than myself", may shed this needed illumination upon a subject which is to me, I confess, a dark and difficult problem.*

INTESTINAL OBSTRUCTION IN A CHILD.

By W. H. DAY, M.D.,

Physician to the Samaritan Hospital for Women and Children.

Intestinal Obstruction in a Child: Treatment by Belladonna and Gradual Injection of Warm Water poured into the Rectum through a Funnel and India-rubber Tubing: Recovery.—W. S., a healthy-looking boy, two years and a half old, was admitted into the Samaritan Hospital under my care on March 4th, 1879, at 12.30 P.M. He had been taken suddenly ill on February 23rd, at 6 A.M., when he got out of bed apparently in great pain, rubbed his abdomen, and cried. Shortly afterwards, he vomited a quantity of yellow slimy fluid. The day before the attack, he had been in his usual good health, and his last meal at 5 P.M. consisted chiefly of a small fried sole. His parents,

thinking that he was suffering from "biliousness", gave him some castor-oil, which failed to operate, and the child continued in the same uncomfortable state. On the morning of the 24th, as he seemed worse, another and larger dose of castor-oil was given; and, this having no effect at the end of two hours, his mother administered a dose of jalap. Although he had vomited at intervals from the commencement of the seizure, a very small hard motion was passed after the last remedy. His friends, however, notwithstanding this apparent indication of improvement, considered him to be getting worse, and they took him to a medical man, who prescribed a powder and mixture, which the child's stomach rejected at every dose. On the 25th, although the abdominal pain and vomiting had increased, the mixture was persevered with, but without the least effect on the bowels. On the 26th, he was worse and becoming prostrate. Mr. Saunders of Thayer Street saw him, and ordered a powder and mixture; but his stomach would not retain a single dose, and the water he drank to assuage his thirst (which had been excessive from the beginning) was no sooner swallowed than it was vomited. On the 27th, he was still worse, and in the evening the pain in the abdomen was very severe. He was put into a warm bath, and a linseed poultice was applied over the abdomen. On the next morning (the 28th), the abdominal pain was more violent, and there had been no action of the bowels. Next day (March 1st), he was in the same condition; pain, vomiting, and prostration were the chief symptoms. A powder was given, and a dose of stronger mixture prescribed every four hours. On March 2nd, he passed about a drachm of solid fecal matter. A little champagne was given, followed by an injection of castor-oil and turpentine, which failed to act on the bowels. He vomited a large quantity of grass-green fluid and was much exhausted. Next day (March 3rd), he was much worse, vomiting more frequently, and appearing extremely prostrate. The limbs were so cold that, notwithstanding the application of a hot-water bottle and flannel to the feet, they could not be kept warm. An enema of castor-oil was ordered, which returned, followed by some thick slimy mucus, tinged here and there with a faint pinkish hue.

On admission into hospital, he was extremely exhausted and helpless. The eyes were sunken in the orbits; the cheeks were cold and pallid; the pulse was thready and 160 per minute; the respiration was calm; the tongue was coated with a thick fur; the lips were dry; and there was considerable thirst. The child lay with its head buried in the pillow, rolling it from side to side occasionally, and at intervals was restless and cried out from pain. No external hernia could be found. On passing the finger into the rectum as high as the sigmoid flexure, no fecal matter could be detected, nor any descent of bowel. There was no distension, nor dullness of the abdomen, nor any prominence. He was put into a warm bath for a few minutes, and afterwards a large linseed poultice was applied round the abdomen and back. A little iced milk was given now and then, and a teaspoonful of a mixture containing belladonna every hour. At 2.30, he had taken two doses of the mixture, the last being retained on the stomach. He had remained quiet for a few minutes, and then became restless from pain. An ounce of warm linseed-oil was thrown into the rectum. At 4.30, after consultation with my colleagues Mr. Spencer Wells and Mr. Meredith, a tube was passed up to the sigmoid flexure; about two yards of India-rubber tubing were attached; and then warm water was gently poured through it from a funnel, at a varying height, according to the effect it produced; but it was soon returned to the amount of about a pint. Mr. Wells and I carefully discussed the question of opening the abdomen to release any constricted or invaginated intestine; but we agreed to wait for the effect of the belladonna and injection, as there was no tympanitic distension, and no positive proof of mechanical obstruction, further than a contracted or paralysed portion of intestine might account for. At 8.30, there was no return of sickness, and the child had kept down two doses of the belladonna mixture. After passing the finger into the rectum and moving it about in all directions, some flatus escaped. The pulse was 160 and very small. Warm water was again passed through the tube into the rectum. At 10 P.M., he had taken milk freely, and there was no return of sickness. No urine had been passed since his admission, but the hypogastrum was resonant.

Next morning, at 6 A.M., the bowels acted loosely. The feces were of a light brown colour, and more were passed at 8.30 A.M. Temperature 99°; pulse 140. At 5 P.M., there was another similar motion. The pulse had fallen to 128 per minute; the pupils were of medium size. At 9.30 P.M., pulse 116, respirations 20. He had slept a good deal since last report, dozing the greater part of the afternoon and evening, probably from exhaustion. No urine had been passed except that which had come with the motions. There was some tympanites, but no tenderness of the abdomen. The situation of the sigmoid flexure was somewhat firm. He was directed to take the belladonna mixture three times a day.

* In the debate which followed, there was a very general agreement with the first two propositions, and an equally general expression that operative interference was called for in cases of ascertained intussusception.