Introduction

To understand the many causes, and to gain an intelligent grasp of the treatment, both Medical and Surgical, of this distressing condition it is necessary to be familiar with the structural elements and anatomical relations of the rectum.

It is however my intention to only touch briefly in this Paper the points that have special bearing on prolapse of the rectum.

For the description of which I am largely indebted to Gray's Anatomy.

The rectum extends from the sigmoid flexure, commencing opposite the left sacro-iliac symphysis, passing downwards from left to right to the middle line, it follows the curve of the sacrum and coccyx, and inclining backwards terminates at the Anus.

It is a cylindrical tube, varying in length from six to eight inches, increasing
in size as it descends.

Of its four coats, the muscular, areolar, and mucous extend throughout its length.

But the serous coat, derived from the peritoneum, covers completely only the upper three inches or so, gradually leaving first its posterior surface, then its sides, and lastly its anterior surface.

Below which line it is connected to the surrounding parts by areolar tissue.

The muscular coat consists of an external uniform layer, continuous above with the longitudinal muscular bands of the large intestine, and internal circular fibres, which, becoming especially numerous at its lower end for about half an inch of the circumference of the gut, form the internal sphincter, an inch above the Anus.

The areolar coat connects the muscular and mucous layers together.

The mucous membrane is thick, and being but loosely connected to the muscular coat favours prolapse, especially in —
children.

The Arteries, the most important of which is the superior haemorrhoidal, pierce and supply the muscular coat at varying heights, and entering the areolar tissue take a longitudinal direction, passing in parallel lines between the muscular and mucous layers towards the end of the gut, communicating at intervals, but more particularly near the Anus, where the branches are of considerable size.

The Veins, by communication between the portal and general venous systems, form a plexus in the loose connective tissue at the lower end of the rectum, and are continued upwards arranged much as the arteries, between the muscular and mucous coats, perforating the former about three inches from the anus pass up external to the bowel.

The portal vein contains no valves.
The recto-vesical pouch in the male extends to within three and a half or four inches from the anus.

The recto-vaginal pouch in the female extends slightly lower.

It is important to bear in mind the close relation of the anterior rectal wall in the male to the membranous portion of the urethra, the seminal vesicles, the prostate gland and the bladder.

And to the posterior vaginal wall in the female.

Mr. Harrison Cripps has shown that the posterior edge of the levator ani muscle forms a distinct free border, which, crosses the rectum, at nearly a right angle at a point from one and a half to two inches from the anus.

**Definition**

By prolapse of the rectum is meant the descent or protrusion of more or less of that portion of the intestine in a
healthy state.

It is usual to divide this condition into two classes.

The partial form, in which the mucous membrane is alone extruded, the muscular coat retaining its position.

The complete form, in which all the coats of the rectum, including the peritoneal covering, are involved in the prolapse, the lower portion of the bowel being as it were turned inside out.

Either form may occur at any period of life from infancy to old age, but it is chiefly met with in children and aged persons.

Dr. Logan, Senior Assistant Physician to the Liverpool Infirmary for Children, writes: 

That at the Infirmary for children, about thirty-two cases of prolapsus are admitted per annum, and that among 26,000 patients it happened once in every 400, adding that it occurs most frequently at the ages, and at the times of Braithwaite's Retrospect of Medicine Vol c iv 1891, p 318.
of the year when diarrhoea is most prevalent. It may be produced suddenly, but more frequently it is of slow formation, slight at first and gradually increasing.

Mr. Harrison Cripps in an article in the Lancet 1 observes it is often of sudden formation in children, while in advanced life it is gradual.

A third and very interesting class of prolapse may be described in which the upper or middle portion of the rectum is invaginated into the lower, forming an intussusception, which by the continuance of straining may eventually be protruded from the anus.

Mr. Harrison Cripps 2 draws attention to an interesting division of this class in which the intussusception takes place without any external protrusion.

The mechanism of prolapse, the view of which, given below, and advanced

1. Lancet October 11, 1890, p. 759.
by Mr. Harrison Cripps' is the one generally accepted, is of considerable interest and importance, for upon the recognition of this is founded much of the success in several forms of treatment to be discussed later.

The key to the mechanism is in the loose connection between the muscular and mucous coats which renders possible the sliding of the one upon the other.

Be the cause what it may, the immediate effect of this movement is the reduplication of the mucous membrane which, if sufficient expulsive force be brought to bear, is extruded from the anus, and, if the straining effort be continued, is followed by complete eversion of the gut.

Evidence of this is often afforded in those cases where a polyposis of the mucous membrane of the rectum exists, and shows how an intussusception of all the coats can be produced by a loosening of the mucous membrane at a particular point. "Harrison Crippis' Diseases of the Rectum and Anus" p. 136.
point, for polypi invariably cause a reduplication of the mucous membrane at the point of their attachment.

The bowel is not only dragged upon by the weight of the tumour and the pressing downwards of the fold, but at this part the gut is thinned and weakened by the loss of support which a firm mucous membrane would naturally have afforded, and thus a starting point will be made for a general invagination.

That the looseness of the attachment of the sub-mucous connective tissue to the walls of the rectum plays an important part in the production of prolapse of the rectum was clearly demonstrated by the experiment of Mollière's, in which inflation of the sub-mucous tissue of the rectum in the dead subject produced protrusion of the mucous membrane through the anus.

9.

The Causes may conveniently be divided into three groups:
1. Anatomical
2. Constitutional
3. Local

1. Anatomical

Causes which are purely of this nature apply more particularly to the two extremes of life. In the Child the rectum is rather more within the abdomen than in the pelvis, and is thus more directly exposed to pressure. The gut is nearly vertical, and has a comparatively extensive meso-colon; the lateral connections are loose, and the muscular control feeble and uncertain.

Again, in the child we have a particularly susceptible reflex nerve apparatus. The prostate is small.

The sacrum less curved than in adult life.

In the Aged the tissues are relaxed,
the muscles enfeebled, and the nerves of the part are deadened and irresponsible.
I have already alluded to the im-
portant part played by the loose attachment of the mucous lining of the bowel to the underlying muscular wall.

2. Constitutional Causes

All circumstances having a debilitating influence on the constitution, causing either wasting of the tissues generally or absorption of fatty deposit, predispose to prolapsus.

To this absorption of fat as a cause, Mr. Harrison Gryffis in his work on "Diseases of the Rectum and Anus" draws particular attention, remarking that in children prolapse is often coincident with some weakening illness which causes absorption of the fat in the ischio-rectal fossa together with relaxation of the muscular tissue of the part.

In persons who have resided in tropical
climates, diseases of the liver, and dysentery, play a prominent part in its production. Digestive disturbances also, more particularly the improper dieting and overfeeding of children, and diseases of the respiratory tract productive of difficult breathing and cough.

3. Local Causes

By the existence of many conditions involving undue straining, such as vesical calculus, phimosis, intestinal worms, polypi, prolonged diarrhoea, habitual constipation, enlarged prostate and displaced uterus. Ashby and Wright mention a case of prolapse in which they found a tight annular stricture of the rectum about one inch from the anus, and which formed the apex of the prolapse. Perhaps the most productive cause is the pernicious habit of frequently

using copious enemata for emptying the bowel.

I shall have reason to mention again a case under my care in which considerable prolapse of mucous membrane was caused by a tight malignant stricture situated three inches from the anus.

**Diagnosis and symptoms**

In the majority of cases diagnosis is perfectly simple.

**Partial prolapse** presents some resemblance to a mass of internal piles, from which however it is readily distinguished by the purple and bunched appearance of the latter, and the fact that they never form a complete ring.

**Complete prolapse** is only likely to be confounded with two conditions, namely, an extruded polypus, and an intussusception protruding through the anus.
The former can be distinguished by its firm consistency, having no central opening, and being pedunculated.

The latter, by careful digital examination, when it will be found that a finger or probe can be passed into the anal outlet by the side of the mass.

More difficulty often occurs however in the third class of prolapse, in which an intussusception, formed by the upper portion of the bowel, being invaginated into the lower, is not protruded from the anus.

Here it is only by careful inquiry into the history and symptoms, together with digital examination of the rectum, that a conclusion can be formed.

The complaint of a muco-purulent discharge of long standing, with the occasional passing of blood, together with difficulty in unloading the bowel, should lead to a rectal examination, when the finger will be arrested by loose folds of mucous membrane, amidst which, more particularly when the
patient is straining, the invaginated portion may be felt; but even careful investigation will sometimes fail to disclose the true nature of the case.

Mr. Harrison Cripps quotes the following instructive case:

A Gentleman was sent to him with the following history.

For two years he had a discharge from the rectum; this usually occurred in the morning or first going to stool, and was occasionally repeated once or twice in the day.

The discharge amounted to about a teaspoonful in quantity and consisted of muco-purulent material resembling the lightly-boiled white of an egg.

He often had a sensation of the bowels being incompletely relieved, and he also complained of an occasional slight aching about the region of the sacrum, but had suffered very little actual pain.

He was very anxious and nervous about himself, and had for a long time been treated, without benefit, for "Cataarrh of the bowel," dysentery, and "liver complaint."

On introducing the finger into the rectum it became arrested by some loose folds of the gut, and some little manipulation was required to pass the finger into the bowel.

On further examination it was found that the middle part of the rectum was so relaxed that a large fold of it became invaginated into the lower portion, and each time the patient strained it was forced down so as to make a kind of intussusception.

The invaginated part did not extend low enough to protrude through the anus. Mr. Cripps came to the conclusion that the discharge and other symptoms arose from the intussuscepted mucous membrane becoming congested from pressure about its neck; and further, that if this could be prevented the case might be cured.
Treatment.

This may well be considered under two main headings.

1. Means taken to return the prolapsed, and often strangulated, bowel to the body.

2. Methods, operative and otherwise, undertaken in the hope of retaining the gut in its normal position.

If the condition is recognised, and attended to at once, there is seldom any difficulty experienced in returning the prolapsed bowel.

To accomplish this, first place the patient in the best position, a child, upon its abdomen across the lap of the Nurse, an adult, in the knee-elbow position, or lying on the side with the knees drawn up.

Then, having covered the protruded part with vaseline, exert steady pressure with the tips of the fingers of both hands; this may have to be continued for several minutes, ever bearing in mind that all
Manipulation should be carried out with the utmost gentleness.

Violence has more than once led to fatal results.

Further, do not attempt reduction while the patient is straining.

Roche mentions a case in which attempts at reduction were continued while the patient was straining, with the result that the rectal wall split, allowing of the escape of the whole of the large and much of the small intestine, the patient dying in a few hours.

Crucelhier cites the case of a man, aged 60, who had been in the habit of reducing a prolapse from which he had frequently suffered; but on one occasion, not being able to accomplish reduction, he applied at the Hôtel Dieu.

The protrusion was then of the size of the fist and much congested.

After possible and prolonged efforts


2. Traité d'Anatomie pathologique Générale, Tom 1, p. 553.
the bowel was reduced, but on the following
day vomiting set in and four days later
he died.

Mr. M. Zuccar records nine cases in which
spontaneous rupture of the rectum in
prolapse occurred, due however to straining
and not to manipulation.

In each case the rupture was followed
by the protrusion of small intestine.
If this simple manipulation fail, re-
position may often be obtained by intro-
ducing the finger, covered with a piece
of lint into the orifice of the protruded
bowel, and pushing it carefully upwards
into the intestine; the lint being dry
adheres to the mucous surface enabling
it to be carried up with the finger.

The finger, previously oiled, is with-
drawn from inside the lint which
may with advantage be temporarily left
within the bowel.

Dr. Logan, Senior Assistant Physician,

Liverpool Infirmary for Children, writes, that after returning the bowel in some bad cases of prolapsus, and following it with the finger, he has been struck with the facility with which the finger retains the bowel in position, even with slight pressure when the child is doing its worst in the way of straining.

It occurred to him that if something could be got to take the place of the finger, while permitting the faeces to pass, one would have a successful means of dealing with such cases.

Accordingly in "two of the worst cases he had ever seen," and in which the children were emaciated and exhausted from diarrhoea and rectal irritation, after returning the prolapse, he passed in a lithotomy tube and kept it there, protecting the anus by a circular pad of lint.

The result, he adds, fully satisfied his expectations.
In one case the tube was retained for three days; and in the other it had to be kept in for a week.

In place of the lithotomy tube he has since procured a perforated celluloid tube $\frac{3}{8}$ of an inch in external diameter, four inches long, and provided with an oval flange at the lower end by which the apparatus can be retained in position.

Dr. Logan adds that this instrument will be found safe and of much service in severest forms of prolapse of the rectum, for which class only does he recommend it.

In three or four days it will be found that its use may be dispensed with.

The same authority advises careful dictetic treatment, and, when indicated, small doses of mercury and chalk, and above all, tincture of opium in fair doses, often repeated, while the child is awake, watching carefully the effect.

It may be well to confine the diet to peptonised milk for a few days.
In cases of long standing, in which inflammatory effusion has taken place, and the protrusion has become strangulated, reduction at once becomes a difficult and more or less painful matter.

It is safest and best to place the patient under an anaesthetic, when, having gently stretched the sphincter, reduction by the above means is usually without much difficulty accomplished.

It may occasionally happen that the prolapse will resist all attempts at reduction from without, as occurred in a case which I have already reported in the Lancet, 1 and which I propose recording fully under the heading of Operative treatment.

Again, there are cases on record, where the condition has received no attention, in which congestion has terminated in gangrene of the protruded gut.

Here no attempt should be made at reduction.

Scrupulous cleanliness, removal with the utmost care of the gangrenous portion as it separates, with attention to the general health, is all that can be done.

A most interesting case, which was under the case of Mr. Baker in St. Bartholomew's Hospital, and reported by Mr. Bowbly, demonstrates the extraordinary extent of gut that may be prolapsed.

A child, of 18 months, made a complete recovery after the spontaneous separation of a prolapse involving the entire colon. When prolapse is cured by sloughing it is very likely to be at the expense of causing a stricture.

It follows that if the sloughing takes place at the apex of a long prolapse, the stricture would be higher up in the rectum when the protrusion is reduced.

In handling the second heading I shall

1. Pathological Transactions Vol 34.
sub-divide it into three groups.
1. Palliative treatment in Infants and Children.
2. Palliative treatment in Adults.

1. Palliative treatment in Infants and Children.

Undoubtedly the vast majority of cases of procidentia recti, occurring in the young, can be permanently cured by palliative means.

When brought into contact with such a case, the first thought, after seduction, is what cause has brought about this condition, and what steps can be taken to prevent its reproduction?

There will be but little chance of permanently retaining the gut, so long as any condition causing undue straining remains unrelieved.

Our first endeavour must be to remove the cause.

Heating's E.N.T. mentions a case which was
under his care, of a little girl, aged 3 years, who suffered from prolapse of the rectum due to the straining induced by the pressure of a vesicle calculus, in which, cure promptly followed the removal of the calculus.

Assuming that we have been able to do this, then begins the long course of careful treatment from which so much may be expected.

The general condition of the child must be studied.

If emaciated, insist on a plentiful supply of good food, with possibly the addition of cod liver oil, thus helping to restore the cushion of fat in the ischeco-rectal fossa, the absence of which is undoubtedly an important factor in the descent of the gut.

Regulate the action of the bowels, avoiding the extremes of constipation and diarrhoea.

The patient should never be allowed to assume the sitting position when evacuating the contents of the rectum.
but should be compelled to defecate when lying down upon the side, or standing.

If the anus is drawn a little to one side with the finger, as the faecal material is being evacuated, the tendency to prolapse is greatly diminished.

Or again, support may be afforded by placing two fingers, one on either side of the anus, during the act of defecation.

If there should be a tendency to undue straining, the daily injection of a small quantity of warm water will be found of service; and, after the motion is passed, one or two ounces of cold water should be injected and retained if possible; the effect of this latter injection is to brace up the bowel, by causing contraction of the muscular fibres.

This should be persevered in for some months.

Various cold astringent enemata con-
-taining tannin, quassia, oak bark, sulphate of zinc, (one to three grains to the ounce) etc., may be used with advantage.

Confinement to bed is often curative, but for simple prolapse alone, this is not often advisable.

When the bowel has been returned it is well to keep a firm pad of lint against the anus, this may be accomplished by means of a T-bandage, or by possibly pressing the nates together by a broad strip of adhesive plaster passed transversely across them.

I have never found any truss that was of the least value in helping to relieve the condition of prolapse in a child.

If the foregoing measures are adopted, and, above all patiently persisted in, operative procedure in children rarely becomes a necessity.

In cases of persistent prolapse of the rectum in children, where the various palliative measures have failed to
be followed by relief of the condition. I believe the safest and surest method is that recommended by Allingham, which consists in the application of strong nitrate acid to the mucocele membrane of the protruded gut. This is carried out as follows:

The child's bowel having been previously opened by the administration of castor oil, and the use of an enema, an anaesthetic is administered; the surface of the prolapsed bowel is thoroughly dried, and cleansed of mucus, by wiping it with absorbent wool.

The whole surface of the mucus membrane, carefully avoiding the skin at the anal margin, is then painted with strong nitrate acid, applied with a swab.

The cauterized surface is now covered with olive oil or vaseline, and reduced. The bowels are kept quiet, if possible, for the first two or three days, and then opened.
by a dose of castor oil.

The prolapse may recur with the first few passages, but a permanent cure is generally effected by one application of the acid.

Should this not be the case, the cauterization may be repeated in a few weeks.

The same method of treatment may be carried out by the application, in longitudinal lines, of nitrate of silver, and it is certainly useful.

2. Palliative treatment in the Adult is much less satisfactory, and seldom succeeds in affecting a cure, though much relief may be afforded.

Here the conditions of life are altered; the anxieties and worries, the rush of business, frequently the pursuit of pleasure, render the strict conformity to treatment, and regularity of habit, difficult, if not quite impossible.

Nevertheless, it can only be right
to give palliative treatment every
trial before proceeding to operative
measures.

Our first thought again is to seek
for, and when possible, remove the cause.

Much that has been recommended
in the case of the child is of consid-
erable value in the adult.

The patient should be cautioned
against all straining; and should
when feasible defecate while lying
on one side. Some, by experience,
are best able to prevent prolapse
by leaning well forward, with the
head lowered, when emptying the
bowels.

Here, too, an injection of warm water
before going to the closet is helpful;
and, after the evacuation, an ounce
or two of cold water injected into
the rectum will act as a local
muscular stimulant.

Some patients are able to control
the prolapse better by acquiring the
habit of a daily motion at bed time.
Treatment by Ice Tampons.

Hojacht recommends for the treatment of chronic prolapse a procedure which has always been successful in his hands, even in the gravest cases.

It consists in the introduction of fragments of ice into the anus during the reduction of the prolapse.

These suppositories should be cone-shaped, artificially frozen, measuring 7 to 8 cm in length, and in diameter at the base 2½ to 3 cm. One of these, enveloped in a piece of iodoform gauze, which should cover it like a glove-finger, and is pushed into the centre of the prolapse, which can thus be readily reduced, the ice and gauze being carried up with the protruded bowel. Usually no painful sensation is produced. After each defecation a new gauze and ice tampon is introduced.

The prolapse occurs more and more rarely, and soon ceases.

This result is due to the relief of congestion and the increased contractility of the rectal tissues under the influence of the mechanical and thermic excitation provoked by the ice.

A certain amount of caution and judgment is necessary in the application of ice.

Mr. Allingham, in the edition of his work on "Diseases of the Rectum", about to be published, mentions a case in which he was called into consultation by a Medical Man who had most assiduously and constantly applied a bladder of ice to a protrusion of the bowel, and this had so much favoured sloughing that nearly the whole mass came away, and there was free secondary haemorrhage. The sloughing was so considerable that a very intractable stricture resulted.

Proofs of which were kindly lent to me by Mr. Allingham.
Dr. H. J. Lounds of Egham Hill speaks highly of the value of a pill containing one grain of Barbadoes aloe with three grains of pepsine, to be taken after the evening meal.

As an instance of the benefit of this plan, he mentions the case of a man, aged 76 years, who had not had an action of the bowels for twenty years without protrusion taking place.

The pill was taken nightly, with the result that the patient was relieved of the condition, nor did it ever recur to the day of his death, some eight years afterwards.

Aloe, given in small doses, is a powerful tonic to the lower bowel. The dose should be so graduated that a soft, but not liquid, motion is daily procured.

1. *British Medical Journal*, Jan 17, 1880, p. 78
Dr. Walter G. Watford writes to express the opinion that, relaxation of the sphincters and playing an important part in producing prolapse, massage in the region of the anus is often of considerable service.

The plan he adopts is as follows: Having returned the prolapse, place a finger on the rectum, and request the patient to contract the sphincters, and go through a regular series of contractions of the muscle, say sixty or seventy times, and to do this twice a day.

It is most effectually done in the recumbent position; in time the muscle will recover much of its power.

Dr. Watford concludes by adding that the plan, being a simple one, it is the more difficult to get patients to carry it out thoroughly, and for a sufficient period.

This treatment can apply only to cases in which the muscular tone is

not entirely lost.

The treatment by hypodermic injections of Carbolic acid or of Ergot, though strictly speaking operative, may with advantage be introduced here.

To far as I am able to discover it has only been tried in Adults.

Hypodermic injections of Carbolic acid have found little favour, being at once too painful and destructive.

Halsey has recommended its use.

Hypodermic Injections of Ergotin.
The Paris Medical quotes from M. Jette's thesis, some interesting facts concerning this mode of treating prolapse of the rectum, originated by M. Pidal of the St. Louis Hospital.

It is essential that the solution of Ergot should be pure.

The injection is made with a Davaj's syringe, at about one-fifth of an

1. Loc. cit. p 115.

2. Reported in the London Medical Record Mar. 15, 1883, p 87.
inch from the anus, parallel to the intestinal wall. The needle should penetrate to the depth of from two to four centimetres, that is to say, as far as the fibres of the sphincter.

Mr. Vidal advises that only one injection should be made, instead of two or three at different places, in the belief that pain is thus avoided.

Mr. Vidal believes the pain is equally great and unnecessarily repeated.

To relieve pain, the injection should be made slowly. The duration of the treatment varies from days to weeks.

It is not affected by the solution used, the quantity injected, or the intervals between the injections.

In order that the cure should be permanent, it is advisable to continue the injections for a short time after apparent recovery.

Mr. Vidal has treated successfully

1. Der praktische Arzt, Nov 1880.
three long-standing cases of prolapsus in adults by this means, the cure being effected in the course of a few weeks.

He injected by means of a Pravaz syringe fifteen to twenty drops of a solution, consisting of one part of Boujen's ergotin in five parts of cherry laurel water, every two or three days through the anus, either into the sphincter or into the prolapsed portion of intestine. Severe burning pain follows the injection, and tenesmus lasting some hours.

The Author (Mr. Pidal) has not met with inflammation, abscess, or toxic symptoms in any of his cases.

Dr. O. Gorques writes that he has been successful in the treatment of several cases of prolapsus by electrolysis, the needles of the electrodes being intro-

duced into the substance of the sphincters.

Trusses.

Of the many trusses that have from time to time been brought forward, I have had most experience of Green's Prolapsus Ani Bandage, with inflatable india-rubber pad. It combines the advantages of being easily applied, efficient, simple of construction, comfortable, and easily cleansed.

1. Taken from Arnold & Sons Catalogue
Dr. Ball speaks highly of a simple form of pessary, which he thus describes. It consists of an oval knob of vulcanite, with a very slender curved shank, which is perforated at the extremity for the reception of a piece of twine, so that, if the instrument should slip within the rectum it can readily be withdrawn.

Instruments of this kind can be obtained of various sizes and are used thus; the prolapse having been sponged and replaced, the knob is introduced into the rectum, the slender curved shank lying between the mates, and the mechanical stimulus afforded by the foreign body tends to brace up the rectum and anus, and keep the prolapse from protruding.

The very slender shank allows the sphincter to contract nearly to its full extent, and also affords a healthy stimulus to this muscle.

1. Diseases of the Rectum and Anus, by Charles B. Ball.
Mr. Frank Elvy of Eastbourne, recommends a form of rubber pessary, illustrated below, which he finds not only prevents descent of the bowel, but by its pressure it empties the engorged veins, and favours absorption of the oedema.

It should be inserted at night, and retained until the following morning, being supported by cotton wool and a firmly applied T-bandage.

The pessary is made by Messrs. Ferguson & Co., 41. West Smithfield E.C.
Operative Treatment of Prolapse

The methods of treating prolapse by operation are numerous. Many of these, however, have fallen into disuse.

Strong acids, and the injection of various fluids into the ischio-rectal fossa, have already been considered.

Further, it is only necessary to briefly allude to several of the older methods of treatment, which have given place to the more modern operations.

Removal of the mass by the galvanic or cold wire érasuré has not proved to be an encouraging procedure, and the same may be said of the "radical cure" by means of elastic ligatures, aided by the liberal application of chloride of zine. The use of the simple ligature may be of value in slight cases, though by some it is thought dangerous.

It is applied to the prolapsed mucous membrane as in that operation for piles; the prolapsed portion is divided into several segments, each of which is tied separately with a silk ligature.
and removed with the scissors.

Treatment by elastic ligature

Dr. Kleberg relates, that in very bad cases of procidentia he has used the elastic ligature for removing the mass. He says:

"An assistant surrounded the prolapsus from above, the points of the fingers being directed towards the free end of the prolapsus, and pressed as hard as possible into the gut at a point perhaps half an inch below the supposed sphincter. Immediately in front of the ends of the assistant's fingers I then placed an unperforated drainage-tube of rubber, one and a half lines in diameter, around the prolapsus, and drew it only as tight as seemed necessary to stop the circulation. The elastic ligature was brought to the necessary tension by means of an easily untied slip-knot of silk thrown under it.

A few lines beneath the ligature
I made a longitudinal incision, two inches long, through the prolapsed gut, and in this way opened the sac formed by the drawing down of the peritoneum. Then I seized the elastic ligature with the forceps and fixed it firmly. It was thus an easy matter to push back into the peritoneal cavity a protruding loop of intestine without the slightest bleeding taking place into the wound, or any air entering the peritoneal cavity, because the elastic pressure follows so rapidly all the movements that no opening can exist anywhere.

After I had convinced myself that the peritoneal sac was empty, and that no invagination of the intestine was present, but on the other hand, only that part of the gut which was to be removed lay in front of the ligature, I thrust the largest size Luer's pocket trocar through the prolapsus immediately below the elastic ligature from before backwards, and passed
through the cannula two elastic drainage tubes of one and a half lines in diameter and, after removing the cannula, tied them as tightly as possible, one on the right side, the other on the left.

These knots were secured against slipping by means of the knot of silk.

The first provision against haemorrhage — the elastic ligature applied after Eschmarch's plan — was then removed and the prolapsus cut off with the scissors, one inch in front of the permanent ligatures.

I covered the parts around the stump with cotton, and soaked that part of the prolapse which still remained above the ligature with a solution of chloroide of zinc, and then covered the whole with dry cotton-padding, giving the patient instructions to remove this as soon as it became moist, and to replace it with dry, giving the air all possible access to the parts.

Dr. Kleberg goes on to say, that the ligatures separated, one on the fifth.
and the other on the seventh day, and that in a short time, the patient was perfectly cured."

Treatment by Clamp and Cautery.

If the protruding mucous membrane be small in amount, with no prolapse of the other coats, it is sufficient to trim away the redundant tissue with a pair of scissors.

If the protrusion of mucous membrane is somewhat extensive, it is better dealt with by clamping, with a hemorrhoid clamp, longitudinal portions of mucous membrane which are cut off, and the stumps seared with the cautery iron. Three or four such longitudinal folds may be removed.

The operation will result in cicatrical contraction of the dilated gut; and, further, by the adhesions produced between the rectal wall and surrounding tissues, the tendency to prolapse is prevented.
Treatment by the use of setons has never been much employed; but the following case, which will serve the purpose of describing the modus operandi, was attended by good result, and is worthy of mention.

Mr. G—, aged 61 years, was admitted into the Middlesex Hospital under the case of Mr. Andrew Clark, suffering from prolapsus of the rectum.

The trouble had existed for three years, during which period she had been twice treated unsuccessfully; one of which appeared to have been cauterisation, and the other, ligation of the mucous membrane. Under anaesthesia, four large silk setons were introduced vertically through the prolapse, equi-distant from one another; the prolapsus returned, and a morphia suppository inserted. Dose opii, half a grain, was given twice a day.

On the fourth day one seton was protruding at the anus and was removed. On the seventh day the patient had a motion and passed a little blood, and possibly one or more setons.

On the fourteenth day another seton came away, no prolapse, and the patient was allowed to get up, and was discharged on the twenty-eighth day, and when seen in three months time had had no recurrence of the prolapse.

The case is of interest on account of its not yielding to the former operations, and being cured by this simple method.

**Purse-string suture.**

Dr. Charles P. Kelsoy of New York, speaks highly of this plan of treatment in prolapse occurring in children, and reports two successful cases.

It is employed as follows:

At the juncture of the skin and mucous membrane, just beneath the latter, a curved needle is inserted in the median line below, and a silk thread is carried half way around the arm and cut again in the median line above, it is re-inserted in the same opening and brought out at the first puncture, making a purse-string suture. The little finger is then put in the arm and the string tied snugly around it.

The patient evacuates the bowel in the recumbent position; after three weeks the suture is withdrawn, and the place kept clean, when it heals quickly.

By this method the bowel is kept in place long enough to contract adhesions.

For a child, on whom other methods had failed, Dr. Platt 1 formed a purse-string suture at the juncture of the skin and mucous membrane of the arm, and kept the suture there.

for three weeks; the prescridentia did not return.

For the relief of those cases in which the orifice of the anus has become much dilated, Dr. John B. Roberts of Philadelphia, strongly advocates the following operation. 1.

The bowels having been thoroughly evacuated, and cleansed, the patient is anæsthetized.

A V-shaped piece is removed, having its apex at the point of the coccyx, and its base consisting of the posterior part of the sphincter ani, from an inch and a half to two inches in length.

Another V-shaped piece is then removed from the posterior part of the rectum, throughout its whole thickness, having for its base the same portion of the sphincter, and its apex about four inches up the bowel.

The bleeding is free, but not alarming.

The wound in the bowel is closed by interrupted sutures of fine silk, tied within the bowel. The separated ends of the sphincters are brought together by two strong silk sutures, and another is inserted through the skin just below it.

A drainage tube is introduced at the point of the coccyx, and carried up behind the line of sutures in the rectum. Dr. Roberts has operated by this method with satisfactory results.

Diagram of Author's method of operating for prolapse of rectum. A window in the anterior wall of the rectum exhibits the lines of excision and the sutures in the posterior wall.
Rectopecty is a new operation introduced recently by Tricomi and Perenuil for the radical cure of prostatic recti.

An incision is made from the anal margin to the coccyx, through which the posterior wall of the rectum is isolated, then two or three silk sutures are passed through the muscular and sub-mucous layers of the rectum, and then suspend and attached to the tissues immediately in front of the sacrum and coccyx.

If necessary, purse-string sutures are used to diminish the lumen of the anal portion of the rectum and of the anus itself, so as to just allow the introduction of the index finger.
Treatment of prolapse of the rectum by actual cautery.

It is largely due to the writings of that eminent Surgeon W. H. Van Buren that the operative treatment of prolapse by actual cautery has again come to the fore.

The actual cautery so much extolled by Feuerinour, and so largely employed for many purposes in the earlier days of surgery, is, writes Van Buren, "one of the most ancient remedies for prolapse, and it is, undoubtedly, effectual.

But its extravagant and injudicious use led to subsequent stricture, and for this reason, probably, it fell into disuse.

As pointing to this, Van Buren quotes from a case under the care of Prof. Huydzen of Ghent, in which he operated on a woman of fifty, whom he cured of a large old prolapse.

"Lectures upon Diseases of the Rectum and Surgery of the lower bowel; by W. H. Van Buren, M.D. L.L.D (Yale) 1881, p. 80."
"Three irons" heated almost to whiteness, were successively applied to the mass, and, not satisfied with this, one was introduced into the anal orifice, so as to fairly touch every portion of the pro- tained gut and reduce it to an eschar."

Many similar cases might be related bearing out the severity of the practice thirty years or more ago.

Continuing, Pow Buren says it may possibly be justifiable to produce a stricture intentionally by this method of operating, as an alternative for so hopeless and distressing a condition as that produced by a large prolapse in an elderly person.

Pow Buren advised a modified use of the cautery as follows:

Having etherized the patient, elevate the hips as in Sims' position, reduce the prolapse, and introduce the largest size Sims' speculum.

Proceed to draw a line upon the mucous membrane with the cautery at a dull-red heat, parallel with the long axis of the gut, and repeat this four or more times.
at equal distances, carrying the cautery each time from a point three inches, or more, above the anus slowly down through its orifice, and terminating the line of exhaus externally where the mucous membrane joins the skin. You will thus have a series of parallel vertical stripes of cauterized tissue, the lower extremities of which will appear as rays diverging from the anus, the number, breadth, and depth varying according to the volume and duration of the prolapse.

In a child, use a delicate cautery, perhaps no thicker than an ordinary probe, but in an adult, a more bulky iron. But in any case it should be bent nearly to a right angle a short distance from the button at its extremity, so as to reach all points of the concavity of the rectal surface.

By operating in this manner, he adds, you will get the full effect of the cautery in producing retractile cicatricies, with the least amount of danger of subsequent stricture.
In a very bad case, an operation of this kind may be repeated, the new lines of excision being made in the intervals between the old ones.

Paw Buren expresses his opinion in these words:

"I believe this to be the best method of employing the actual cauterity, and it is applicable to every stage of prolapse amenable to cure by local means."

Mr. Harrison Cripps may be said to be the great supporter of this operation in our Country.

The main lines of Mr. Cripps' operation follow closely those laid down by Paw Buren.

If the rationale of this operation is to be properly understood, it must be remembered what has already been said with reference to the mechanism of prolapse.

The excudation produced by the inflammation excited in the sub-mucous tissue cements together the mucous and muscular coats, preventing sliding, while
at the same time it affords an increased stiffness to the whole bowel.

Mr. Cripps operates when the prolapse is protruded, when possible, but if the gut cannot be protruded, he carries out the operation using the largest sized Sims' speculum.

Paquelin's cautery is of little use for this purpose, cooling too quickly.

Mr. Cripps advises the use of two cautery irons; these should consist of tapering metal rods set in wooden handles, the ends are turned down at right angles, expanding into knobs of metal about the size and shape of an acorn.

Mr. Cripps advocates strongly a particular method of dressing the part.

After the operation the gut is reduced.

a thick india-rubber tube, seven inches in length, with a third of an inch calibre, is passed up into the bowel for about five inches; strips of lint are then arranged round the interior of the bowel, extending as high as possible; cotton-wool thoroughly dusted with iodine is then evenly and carefully packed into the bowel, between the tube in the centre and the oiled lint at the sides. This gives a firm even support to the lower few inches of the bowel, while the escape of the faeces etc. is provided for by the tube.

The support thus afforded at an early stage is very material.

The success of the operation depends largely on the care that is taken to prevent the descent of the bowel during the early stages of healing, before the adhesions have become firm.

After forty-eight hours the whole dressing is gently removed, the part thoroughly washed, and a clean dressing replaced. After the first few days, internal dressings can be dispensed with, but
the tube, cleansed daily, is kept in for ten or more days.

By a small nightly dose of opium the bowels can be kept confined for ten days.

Small doses of castor oil can then be given, together with an enema if necessary.

The patient must on no account sit up or strain, the motion is to be passed lying on the side and the anus drawn a little from the middle line. This should be enforced for at least six weeks, otherwise the entire benefit of the operation may be lost.

In conclusion, Mr. Cripps says that his experience of this operation coincides with that of Mr. Herbert Allingham, namely, that this method of operating is safe, simple, and generally effects a cure.

As examples of the operation and benefit that may be expected, I give the following account of two cases upon which I operated shortly after reading Mr. Cripps'
interesting papers in the Lancet.¹

In the early part of January 1891 Mrs B—, aged 55 years, a spare woman with anxious haggard expression came to me, complaining of a protrusion from the anus, accompanied by a profuse discharge of mucous, and latterly of blood. Her existence for the past five years had been one of great misery.

Three years previous to consulting me, when straining violently at stool, a "large lump" came down suddenly.

She experienced some difficulty in returning it from the first, and from this time she never had an action of the bowel without its descent.

On rectal examination the finger at once came upon a polypoid growth, which proved to be a villous tumour attached to the mucous wall by a short broad pedicle, four inches from the anus, in addition to which the mucous membrane was thrown into

¹ Lancet Oct 11, 1890, p 759.
loose folds.
The sphincter had all but lost its power.

On the patient straining slightly, polypus with some four inches of bowel was at once extruded, the pedicle being attached to the apex of the prolapsed gut. The surface of both tumour and bowel was ulcerated in parts and bled freely on handling. The mucous membrane was thickened and traversed by several large vessels.

I suggested removal of the growth, at the same time holding out hopes of relieving the prolapsus; to this she readily assented.

A week later, to allow of the patient being carefully prepared, with the help of two of my colleagues, I operated in the following manner.

The patient was anaesthetized and placed in the lithotomy position.

The tumour and prolapse were drawn down and thoroughly cleansed.

The pedicle was ligatured with silk in three portions, and removed.
Several large hemorrhoidal vessels were exposed in the gut and tied with fine silk. Then with cautery points, of which I employed two of the pattern suggested by Mrs. Grippes, heated to little more than black heat over a spirit lamp, a series of lines were drawn in the long axis of the gut from close to the anus, carefully avoiding injury to the skin, to the apex of the prolapse, thoroughly searing the mucous mem-
brane. The protrusion was now returned, an india-rubber tube, seven inches in length with a third of an inch calibre, was passed into the rectum for about five inches, and the parts were dressed in the manner suggested by Mrs. Harrison Grippes.”

The patient was put into a well warmed bed, and covered up with hot blankets. She took the anaesthetic well, and appeared to suffer little from shock.

*Lancet* Oct 11, 1890, p 760.
Troublesome vomiting which persisted for the first twelve hours was effectually quieted by small draughts of hot water. For the first forty-eight hours her nourishment was limited to Brandy Jelly, Bovine mix warm water, milk and soda water, and thin peptonised quel.

From this time a gradual return was made to ordinary diet. A catheter had to be used occasionally, there being some little difficulty in passing the urine lying down.

On the morning of the third day, forty-eight hours after the operation, the dressings were changed, and the parts thoroughly cleansed by a gentle injection of hot carbolic lotion (one in sixty). Fresh dressings and a clean tube were introduced as on the first occasion.

Flatus was freely passed from the first. There was no tendency to strain, and I was particularly struck by the freedom from pain, remembering well several
cases of painful distension or similar operations during my House-surgeon days when the rectal tube was not used.

The bowels were kept confined for ten days by the nightly administration of half grain opium pills.

The dressings, gradually reduced in amount, were changed daily for the first five days, and then omitted entirely.

The tube was gently inserted each morning and evening for an hour or so, as long as the patient continued to find relief from it.

Early on the tenth morning the patient was given half an ounce of castor oil, followed in an hour by an injection into the rectum of two ounces of warm olive oil.

The patient had an easy action of the bowel, lying on her left side with the right buttock well drawn up.

This treatment was continued daily.

At no time was there the least tendency to return of the prolapse.

For two months the patient adhered
rigidly to my wishes, and had all evacuations of the bowel lying down. Rectal bougies were passed from time to time for four months after the operation. **Subsequent history.**

In 1898 the patient returned to me complaining of a return of the mucous discharge, this I found to be due to a small villous tumour growing in the neighbourhood of the former one. The rectum in every other respect appeared to be perfectly healthy.

With very little difficulty I transposed the pedicle with silk, ligatured and removed it with probe-pointed scissors, curved on the flat.

In December of 1900, when visiting the patient for a simple ailment, I again examined the rectum, and found it to be healthy and natural in all respects.

(2) In November of 1898, I was consulted by a lady aged 54 years, for a severe condition of internal haemorrhoids complicated by prolapse of the mucous mem-
brane of the rectum.

The piles had troubled her off and on for upwards of twenty-five years, occasionally becoming very inflamed and congested.

The prolapse was first noticed about five years previous to my seeing her. It had gradually increased in extent troubling her most between the "attacks" of haemorrhoids.

I excised the piles by Mr. Whitehead's method, removing with them as much of the mucous membrane as appeared slack. I then seared the mucous membrane an inch above the line of sutures, at several points, with actual cautery.

The rectum had been well dilated before commencing the operation. The rectum was lightly packed with oiled lint, and a tube inserted as in the former operation.

The anus was well supported by a pad of isoform wool held in position by a T-bandage.

The same precautions were observed in keeping the bowels at rest, but the
patient had a natural motion, without much discomfort on the fourth day. The tube and all internal dressings were dispensed with after this.

The patient made an uninterrupted recovery, the wound healing perfectly. Rectal bougies were passed for the first two months.

I examined the patient six months after the operation, and found the rectum healthy, the sphincter acting perfectly, and there was no sign of constriction, nor had there been any return of the prolapse.

The patient volunteered the statement that "life was again worth living."
The Treatment by Excision

The operation of amputation or excision of the rectum for extreme cases of prolapsus is recommended in the greater number of manuals of Surgery published in recent years, and was first introduced into practice by Aujet in 1882.

A year later Mikulicz reported the operation with a thorough description of the technique.

Successful cases have been reported by Bilroth, Nicoladoni, Bogdanik, Velatov, Peric, Trouelin, Hoffer, Treves, Partridge, Raye, and others.

1. Progress Medical, 1882, No. 34.
2. Gazeta Charska, 1883, Nos 47 and 48.
5. Lancet February 1890, p. 396.
   March 1890, p. 454.
Whether for partial or complete prolapse the main features of the operation are the same, differing however in the method of dealing with the protruded peritoneum when present, and the muscular wall of the bowel in the complete form.

Mr. Treves, who is a very strong advocate for excision, describes the operation in the two forms, as follows:

In partial prolapse, the patient having been carefully prepared is placed in the lithotomy position, and secured by Glover’s Crutch, the buttocks being well raised for the double purpose of bringing the region to be operated on into more convenient position, and of allowing the coils of small intestine to be to some extent withdrawn from the pelvic floor.

The first step in the operation consists in demonstrating the full extent of the prolapse.

The mucous membrane within the lumen of the prolapse is seized, at some height above the aperture in the bowel with tongue forceps, and pulled down.

Three pairs of such forceps applied at different points of the rectal wall are required.

These remain attached, and serve to indicate the real apex of the protrusion, also to allow of a hold being taken of the part, while their weight prevents recession of the everted mucous membrane.

A circular cut is next made around the base of the prolapse, at the exact spot where skin and mucous membrane join.

This incision involves the mucous membrane only.

The mucous membrane is now dissected off from the under layer with scissors and forceps, and the whole of it turned down like a cuff.
The prolapse has now an hour-glass shape, the narrowed portion corresponding to the site of the apex of the protrusion. Nothing but the raw surface is visible. The bleeding is generally quite insignificant.

The left forefinger is now introduced into the lumen of the prolapse to ascertain that the protrusion is composed of mucous membrane only.

The layer of mucous membrane, now the inner layer, is next divided at the level of the Anus with scissors.

As each nick is divided the cut margin is seized with pressure forceps. This allows of the arrest of all bleeding, and prevents the mucous membrane from being withdrawn into the rectum.

In this way the prolapse is completely excised.

One by one the forceps are removed, any bleeding point being ligatured, and the mucous membrane is attached to the skin at the margin of the Anus with sutures of silk worm gut.
The part is dressed with wool dusted with iodoform, which is retained in position by a T-bandage.

The bowels may be opened about the fifth day.
And the sutures removed about the tenth day.

**Incomplete Prolapse**

The operation is commenced in the manner described above.

The mucous membrane forming the outer wall of the prolapse is separated all round as in the former operation, and the protrusion quite bared by the mucous membrane being turned down in the cuff-like manner.

Careful digital examination at this period, both from within and outside the protrusion, will reveal several important facts, namely, whether the prolapse is complete, whether the peritoneum is protruded, and whether this protrusion contains any of the abdominal viscera.

The muscular wall is easily felt firm
and hard.

When the peritoneum is protruded the anterior wall of the cone at this point is flaccid, comparing markedly with the firm wall presented by the rest of the prolapse.

And it will not be difficult to tell whether there is any hernia into this peritoneal sac.

The next step in the operation is to divide the anterior wall at the level of the anus, i.e., at the very base of the cone, and open the peritoneal cavity; this opening is at once plugged with a sponge.

The rest of the prolapse is now severed rapidly with scissors in the manner already described. The peritoneal wound is closed by several points of the finest catgut.

The divided end of the bowel is attached to the margin of the anus by sutures of silk worm gut; the sutures involving the skin, the whole thickness of the rectal wall, and as much of the sub-
-cutaneous structures about the anus as possible.

Do not be in any hurry to open the bowels, or to remove the sutures.

To illustrate these procedures Mr. Treves reports three cases, each of which is full of interest and instruction.

Case 1. The operation was performed on a man aged 37 years, a thin, feeble, and nervous individual, who for eleven years had suffered from prolapse, which appeared first in connection with chronic diarrhoea.

At first it only came down with each act of defecation, and was easily reduced, but latterly it descended irrespectively of this act, and became much more painful and difficult of reduction, rendering his life one of abject misery.

There was nothing in his history that bore upon the case. Considerable

mucous discharge from the bowel, mixed occasionally with blood, formed a distressing symptom.

No form of Truss, or compress, gave him relief. The prolapse presented the ordinary appearance, it measured five inches in length. It was composed apparently of mucous membrane only.

It could with difficulty be returned, but immediately re-appeared upon the support of the hand being removed.

The operation, as described for excision of partial prolapse was performed.

The piece removed represented the whole of the prolapse unfolded, and appeared therefore as a tube of mucous membrane with the epithelial lining inside, and which measured, when stretched out, ten inches.

The operation was simple, uncomplicated, and attended with but trifling homoeo-
hage.

In this case, in order to lessen the size of the anus, which after the operation would admit four fingers,
Mr. Treves excised an inch of the external sphincter, bringing the divided ends together with three catgut sutures. This proceeding, Mr. Treves adds, gave rise to much pain and tenesmus, and he has not since carried it out.

The bowels were opened naturally on the fifth day.

The sutures were removed on the tenth day. The patient recovered without a bad symptom. At first there was a little incontinence, but at the end of a month the part was sound and the function of the anus entirely restored.

The cure of the prolapse was complete.

Case 2. The patient, a thin, unhealthy-looking woman, had suffered from constantious mischief since childhood.

She had been troubled with prolapse for twenty years. The prolapse never occurred except in association with defecation, and it had always been most difficult to reduce, the patient having to go to Hospital for this.
purpose.

She had undergone two operations, on both of which occasions she says the bowel was "burnt.

Latterly the bowel came down with each act of defecation, but she was able to return it herself now, the anus having become patulous.

The protrusion, measuring four inches in length, was covered with healthy mucous membrane.

She ascribed the trouble to the result of her first confinement; no cause however was apparent.

The prolapse was excised by precisely the same method as described above. But in this case the sphincter was not touched.

Only four arteries needed a ligature. The mucous membrane was sutured to the skin at nine points with silk worm gut.

The prolapse was of mucous membrane only. The bowels were opened on the fourth day; and the sutures were removed on the tenth day.
The part healed up well, and there was very little pain.

The left the Hospital having regained complete control over the sphincter.

Mr. Treves concludes this report by remarking, "that as every trace of the relaxed mucous membrane was removed, and, as that tunie had been well drawn down before it was excised, it may be inferred that the condition was cured."

**Case 3.** A sailor, 36 years of age, with a very large prolapse of the rectum, which proved to be an example of the "complete" form.

He had suffered fromague, and from chronic dysentery; apart from this he was a strong, healthy, vigorous man.

His habits were temperate, he gave no history of syphilis, and had never been subject to stricture or haemorrhoids.

The prolapse appeared in the first place in connection with an attack of dysentery four years previously, and was associated with much pain and tenesmus.
The bowel at first only came down during defecation, but later on it descended whenever he coughed or exerted himself, and the difficulty of keeping it up became almost insurmountable.

His chief complaint during the previous twelve months had been distressing tenesmus, loss of control over the anus, the escape of bloody mucous and of faecal matter, and great irritability of the bladder, while defecation caused him great distress.

The motions during this period had been shaped like "lead pencils," and had to be squeezed out of the prolapse with the hand.

The prolapse was very large, of conical shape, and covered with healthy mucous membrane.

The base of the cone measured no less than ten inches and a half in circumference, and was five inches in length. When the prolapse was reduced, the size of the anus appeared enormous, it remained open and showed
little or no disposition to contract.

He could retain neither plateus nor
faces, which indeed escaped without
his knowledge.

The lumen of the prolapse was very
small and contracted, and would
only admit one finger.

When the prolapse was reduced, and
examined with a finger in the rectum,
it felt like a large soft foreign body
with a central tube of cartilage.

The following operation was performed;
the prolapse was drawn down to its
full extent. The mucous membrane
forming the outer wall of the prolapse
was now prepared for separation by
the knife being carried around the entire
base of the cone, traversing the skin
close to its line of junction with mucous
membrane.

This tissue was then dissected from
the prolapse in the usual way, by means
of scissors.

The protrusion, quite bereft of mucous
membrane was thus exposed, and it
felt firm and hard, except at its anterior part close to the anus. Here there was evidence of a protrusion of peritoneum.

The wall of the cone at this point was flaccid, and compared very mark-
edly with the firm wall presented by the rest of the prolapse.

The buttocks had been well raised to hinder the protrusion of any coils of small intestine, and no evidence of such a hernia existed.

The prolapse was then cut across at the level of the anus, i.e., at the very base of the cone.

The anterior wall was first divided, and the peritoneal cavity opened; this was at once plugged with a sponge.

The rest of the prolapse was then severed rapidly with scissors.

The cut end of the bowel, muscular coat and mucous coat together, was seized with pressure forceps in the manner already described. All bleeding points were secured. The small plug of sponge having been removed, the
First case was to close the peritoneal wound, this was done by means of some size or seven points of the finest chronicised catgut.

The divided end of the bowel was next attached to the margin of the anus by silk-worm gut.

The sutures involving the whole thickness of the wall of the rectum and as much as possible of the subcutaneous structures about the anus.

Auture involving merely the skin and mucous membrane would obviously not have met the needs of the case.

Any bleeding point was ligatured.

The bowel had been divided above the greatly thickened and hypertrophied part which formed the prolapse, and the section attached to the anus was thin and in every respect normal.

The anus, as it appeared at the time of operation was of immense size. The external sphincter appeared as a quite considerable ring of muscle.

The part removed measured five
inches in length, and upon its anterior surface was nearly three square inches of peritoneum.

Although the mucous membrane was represented by a double fold, one covering the outer surface of the prolapse, and the other lining its lumen, the muscular tunic was represented by only a single tube.

The internal sphincter formed the apex of the protrusion, and thus it happened that four inches and three quarters separated the external sphincter from the internal.

The muscular coat of the rectum had descended bodily and had carried the mucous membrane before it.

It had not been turned "inside out" but had been prolapsed precisely as if it had been a solid organ like the uterus.

There was no evidence of disease beyond that afforded by the thickened and contracted muscular tunic, which was readily dilated after removal.
There was no trace of a polypus or growth.

The patient recovered rapidly and without a bad symptom; he had very little pain.

A dose of castor oil administered on the seventh day produced a copious evacuation which contained many large sepalas. The bowels after this date acted regularly, and the motions were passed involuntarily.

No sutures were removed until the thirteenth day, when four were taken out.

The wound healed perfectly and not a drop of pus formed. The patient got up on the nineteenth day. All stitches had been removed by the twentieth day. The patient had now some little control over the arms. In six weeks he was discharged as well.

The patient came to be inspected some months after the operation, and was then in sound health in all respects, and had complete control of the arms, and
more singularly little local evidence of the operation.

Bogdanik reports five cases of resection of the rectum for severe prolapsus. Three of which appears to have resulted favourably; the remaining two however terminated badly. One, a child five years of age, in which the prolapsus was complicated by a hydrocele, died of septic peritonitis after three days. Another, a patient one year of age, in which he resected eight centimetres of rectum, returned to the hospital thirteen months later with symptoms of incarceration. Examination showed that the rectum was so contracted that its lumen would not admit a fine probe. An anus praeternaturalis was made. The peritoneal cavity contained some serous fluid and was quite congested. The intestine when opened contained much fecal matter and indigestible material, pieces of cork, cherry stones etc. The patient improved greatly after the operation. The rectal stricture was then stretched by bougies, but the result being unsatisfactory, radiating

incisions were made in every direction, and the rectum stretched with the finger.

The freshened edges of the colotomy wound were then sutured. The bowels emptied for several times, though a slight abdominal fistula persisted.

With the view of closing this, the patient was again chloroformed, but after three minutes of anaesthetization the patient showed signs of asphyxia, and died after five hours.

In future Bogdarian intends to perform colopexy, instead of the resection.

Mr. Thomas Fiaschi, Honorary Surgeon, Sydney Hospital, Sydney, reports two interesting cases of treatment of prolapses by excision of the section 1.

The first, a man aged 35, with a prolapse three and a half inches in length and eight and a half inches in circumference, with the anus extremely patulous.

1. Australasian Medical Gazette, Nov. 21, 1898.
Examination showed that the prolapse was of the complete variety.

The steps of the operation followed closely, those given by Mr. Treves.¹

The recto-vesical fold of peritoneum which came directly under the line of incision was opened, and its two cut edges sutured with a continuous top-sewing stitch of fine catgut.

The patient made a good recovery with the immediate result that the prolapsus did not recur.

For the purpose of contracting the anal orifice the following operation was performed.

A wedge-shaped portion of skin and sphincter, having the apex on the coccyx, and the base near the anus, was excised.

The two sides were brought together and united with deep sutures, much as is done in Roberts’ cruciform

¹ Lancet. March 1, 1890, p. 396.
protoplasty, and the patient was discharged, having perfect control of his arms.

The second, a young man, 24 years old, of delicate appearance, with prolapse measuring three and a half inches, by nine in circumference.

The operation was carried out as in the former case, including the division and suturing of the peritoneal pouch.

The patient appeared to be doing well for the first five days. Temperature ranging between 99 and 100°F.

On the morning of the sixth day, the bowels were well relieved.

At 9.10 that evening, while playing with a kitten, in doing which he turned on his left side and suddenly complained of great pain in the left iliac region, which rapidly increased, ascending to the chest, this was accompanied by great jactitation and dyspnoea.

1. Dennis' System of Surgery Vol 4, p 563.
And within twenty minutes the patient breathed his last breath.

No autopsy could be obtained.

Mr. Fiaschi is of the opinion that one of two things happened.

First. An abscess between the anterior wall of the rectum and the peritoneum suddenly burst through the sutured portion of the peritoneum into the peritoneal cavity, causing fatal collapse.

Second. Septic thrombosis starting in either the inferior or middle hemorrhoidal veins, ascending to the internal iliac vein, with detachment of a large thrombosis, and embolism of one of the cardiac orifices, or more likely of the pulmonary artery.

This surgeon comes to the conclusion that amputation in severe cases of procidentia ricti is not a safe operation.
Colopescpy or Ventrifixation

Treatment of procidentia recta by fixing the upper part of the rectum, or the sigmoid, to the abdominal wall.

Mr. Herbert Allingham when editing his Father's book on "Diseases of the Rectum" in the year 1888 wrote as follows, (page 187)

"As it is sometimes impossible to cure that variety of procidentia in which the upper part of the rectum prolapses into the lower, but never appears outside the anus, by the application of the cautery, it has occurred to me to make a small incision through the anterior abdominal wall on the left side, just above the outer third of Poupart's ligament. I should then introduce the fingers into the abdomen, catch hold of the rectum, and pull it up. When it has been pulled up as high as possible, in fact sufficiently to straighten the rectal tube, and so remedy the procidentia, I should then
pass a silk thread through the mesentery, and fasten the latter to the abdominal wall.

By such a procedure I should hope that a firm adhesion would be formed, and the upper part of the rectum would be prevented from becoming intussuscepted into its lower portion."

Mr. Allingham in 1890 wrote: "Since making these suggestions I have not seen a case necessitating such an operation."

The operation of elevation and fixation of the lower part of the large intestine to some portion of the wall of the abdominal cavity, for the cure of prolapse of the rectum, was devised and performed first, by J.ennel on February 5, 1889. He opened the abdomen in the left iliace region, as for the formation of

"Lancet July, 1890, p. 206."
artificial anus, raised the intestine out of the wound, and drew it upward so as to reduce the prolapse of the rectum.

He confined the bowel in place by stitching it to the borders of the wound, and by the support of a steel sound, surrounded by gauze, carried through the mesentery and permitted to lie on the abdomen.

An artificial anus was made on the sixth day following the operation; an action of the bowel occurred on the eighth, and the sound was removed on the ninth day.

The artificial anus was made for the purpose of securing rectal quietude. Electricity was employed to restore tone to the sphincter.

Seven months after the operation the following statement was made.

"The sphincter has in a large part recovered its power, and the mucous membrane does not appear outside."

The artificial anus was finally closed on February 26th 1890.
And, thirteen months from the time of the first operation, the case was declared substantially cured.

The second operation of colopexy, was done on November 5th, 1889, by Verneuil, who was familiar with the preceding practice of Saennel, which he pronounced as an "original, ingenious, therapeutic, conception."

This was performed on a woman 26 years of age, who had suffered for a long time with a pronounced prolapse of the rectum, which had resisted several methods of surgical treatment.

Through an abdominal incision, Verneuil reduced the prolapse and fastened the bowel in place through the agency of the fatty appendices of the sigmoid colon. These appendices were drawn well outwards through the wound and fastened there by sewing.

The wound healed promptly, but the appendices were soon found to
be unequal to the strain put upon them, and a prolapse followed, but of a less degree than that of the original condition.

"Notable amelioration," is the reported outcome in this case.

Between 1890 and 1894, several French, Austrian, and Swedish Surgeons, performed the operation of ventrification, and in 1894 Caddy, of Calcutta, attached the meso-rectum to the muscles and peritoneum of the abdominal wall with good result.

Several American, and Continental, Surgeons have recorded cases since 1894.

Notably, Dr. Byrant, of New York, who has published collected records of twenty nine cases which I shall refer to again.

Brigade Surgeon H. McLeod of the Calcutta Medical College has made an important contribution to the literature on coloectomy, and to describe
the steps of his method, I feel I cannot do better than give an account of an operation performed by him in Febry 1890.

A Hindu Youth, aged 19, of slender frame, and pallid aspect, was admitted into the Medical College Hospital, Calcutta, on Janv 27th 1890, for very aggravated prolapse of the rectum.

This malady commenced eight years previously, after an attack of dysentery. The prolapse measured six inches in length, and eleven in circumference. The sphincters was greatly relaxed and quite devoid of tone.

On Febry the 1st, he was operated on by means of the actual cautery, this however proved unsuccessful.

On Febry the 28th, he was put under Chloroform and the following examination was carried out.

The prolapse was reduced, and the
oiled left hand introduced with the greatest care through the dilated sphincter and the pelvis, into the cavity of the abdomen. The sigmoid flexure was found to be greatly dilated, but no other abnormality was discovered.

The abdominal wall was thin, and the fingers of the hand within the bowel could be made prominent above Poupart's ligament.

On March the 1st, the patient was again chloroformed; the surface of the prolapse was bathed with a 1 in 40 carbolic lotion.

The prolapse was reduced, and the left hand passed up into the abdomen. The fingers were made prominent above Poupart's ligament, care being taken to remove the small intestine inwards.

A long steel acupressure needle was now passed through the abdominal varieties into the cavity of the gut, guided across its interior by the fingers, and passed outwards until it emerged about three inches from the point of
entrance. This needle was placed parallel to and about one inch above Poupart's ligament. Another needle was inserted in the same manner about three inches above this one, and rather external to it, so as to secure the intestine in an oblique position from below, upwards and outwards.

The upper end of the rectum, or the lower end of the sigmoid, was thus temporarily fixed in the desired position by these two needles.

The hand was now withdrawn, an incision about three inches long was made between the needles, at right angles to them and in the long axis of the intestine, as near the middle of
the applied part of it as possible.

The layers of the abdominal wall were divided carefully to the same extent one by one, until the parietal peritoneum was reached; the peritoneal cavity was not opened.

The left hand was now re-introduced into the interior in order to avoid puncture of the mucous membrane, and, guided by the fingers in the inside of the gut, two series of loops of silk thread were inserted, four on each side, with a handled needle, in the manner described by Mr. F. G. House in the article on Gastrostomy in Heath's Dictionary of Practical Surgery, at a distance of about an inch apart, so as to attach the serous and muscular coats of the intestine to the abdominal wall.

A second series of silk loops, also penetrating the two outer walls of the intestine, were placed between successive pairs of these rows in order to bring the lips of the wound together; and between these.
smaller horse-hair stitches were inserted.

The wound, which was dressed in an ordinary manner, remained aseptic, and healed by first intention throughout.

The steel pins were removed in twenty-four hours. The stitches were removed between the ninth and fourteenth day. Beyond a slight rise of temperature he had no unpleasant symptoms.

The bowels were carefully regulated and that without much difficulty, with no protrusion of the gut.

The return on examination by the surgeons was found to be in good position. The patient went home just six weeks after the operation.

In a further report upon the same case, Dr. McLeod says that the youth returned to Hospital, fifty days after his discharge, with a small prolapse of mucous membrane on the right side of the anus.

Lancet Oct 11, 1890, p. 769.
This was pulled down with a Vulceum, and was, together with a portion of the verge of the anus, secured in a Smith's clamp, cut off, and carefully cauterised. A second fold of loose mucous membrane in continuation of this was similarly dealt with.

This second operation restored the efficiency of the anus, and there was no further slipping down of mucous membrane.

Joseph D. Bryant of New York, insisting upon the importance of making an artificial anus as a preparatory step in the radical cure of prolapse by fixation to the abdominal wall, submits the following propositions, reported in the "Annals of Surgery":

1. That the performance of the physiological functions of the rectum contributes greatly to the advancement of rectal disease, and to the sufferings of the
2. That the complete vicarious discharge of the feces through an artificial anus reduces physiological demand on each structure of the rectum to a minimum.

3. That the lessening of the physiological requirements is commonly in direct proportion to the diminution of the faecal flow through the rectum.

4. That the cessation or lessening of the faecal discharge per annum exercises a palliative influence on diseases of the rectum.

5. That in certain cases of obstinate rectal prolapse the formation of a vicarious channel for faecal discharges was justifiable, both as a palliative and curative measure.

6. That the preliminary establishment of such a channel for the purpose of cleanliness, and the prevention of infection, is justifiable in grave operations for prolapse of the rectum.

7. That the dangers attendant on the
formation of an inguinal anus are
much less than those invited by the
contact of faecal discharges with the
large fresh cut surfaces of the rectum.
Bryant records three cases in which an
artificial anus was made.
In the first colopexy by Isenmel it
will be remembered that an artificial
anus was made.
It is now however generally felt
that this method of treating even severe
rectal prolapse is unnecessary and very
unsatisfactory.

In the following case the complicating
malignant disease was my excuse for
opening into the gut.
In the Autumn of 1898, a man 65
years of age, was admitted into the
wards of the Royal Cornwall Infirmary,
under my care, complaining of pronounced
condition of prolapse of the rectum, which
had first shown itself, some six months
previously; it was accompanied by a
fetid discharge, and with much tenesmus.
and pain.

On examination it was found that he was suffering from a malignant stricture of the rectum situated about four inches from the anus, which, when he strained down, came to within an inch of the orifice, causing a prolapse of two inches of mucous membrane.

As the old man was much reduced in health, and it was impossible to estimate the extent of the malignant disease, I decided to make an artificial anus.

This I did in the usual way, giving additional support by passing a glass rod through the mesentery, under the gut, across the abdominal incision; firm adhesions formed and the gut remained in good position after the stitches and glass rod were removed.

A good spur resulted, and all the faecal matter was passed through the new channel.

The lower part of the rectum was kept thoroughly clean by daily anti-
Septic douching.
Great relief was experienced as the result of the operation.
The disease, being no longer irritated by the passage of faecal matter, appeared to remain quiescent.
The patient improved wonderfully, and lived in comparative comfort for eighteen months after the operation.

Dr. Bryant of New York has collected records of twenty nine cases of Colopexy, the publication of which in the "Annals of Surgery" 1897, Vol. XXVI p. 165, forms a very valuable treatise on the methods employed in performing the operation, and on its history.
It will be seen in the subjoined series that the portion of the colon sutured has varied considerably, as also has the attachment to be abdominal varieties.
The lettering in the cases about to be described signifies:

(a) Name of operator,
(b) Number of cases operated on,
(c) Date of the operation,
(d) Technique,
(e) The result.

1. (a) Saennel (of Toulouse); (b) 1; (c) Nov 6th 1889; (d) Littre's incision, intestine held in wound by large urethral sound covered with iodoform gauze passing through mesentry; two appendices epiploicae included in stitches narrowing the wound; on sixth day artificial anus produced; (e) February 26th 1890, fourth operation for closure of artificial anus, - successful; prolapse cured.

2. (a) Verneuil (of France); (b) 1; (c) Nov 5th 1889; (d) Intestine drawn upward; fixation by including all the appendices epiploicae of the sigmoid in a suture, the extremities of which were then passed through the abdominal walls.
at a centimetre from the edges of the wound: (a) partial recurrence (date not given).

3. (a) McLeod (of Calcutta): (b) 1: (c) Jan 6th, 1890: (d) left hand introduced through rectum to just below curval arch; two long steel needles were then thrust a little distance apart, parallel to the prural arch, through the abdominal wall, and out again, pinning the colon to the parieties; vertical incision between the needles down to peritoneum; colon sutured to peritoneum guided by hand in bowel: (e) at the end of three months no return of prolapase.

4. 556. (a) John Berg (of Sweden): (b) 3: (c) one case in Spring 1891, two other cases soon afterwards: (d) incision as for iliac colotomy; prolapase reduced by traction; fixation by silk sutures through meso-rectum, parietal peritoneum of iliac fossa, and fibres of Pouparts ligament (March 8th, 1892). Berg states that he has not had the three
cases under observation long enough to judge value of results: (c) October 1894; return of prolapse in at least one of the three cases (stated by J. Borelius "in Hygeia", 1894).

7. (a) Jacques Borelius (of Sweden): (b) 1: (c) Sept 17th 1892: (d) incision above left Poupart's ligament; intestine drawn up; suture attached mesentery to abdominal wall, including Poupart's ligament; intestine sutured to parietal peritoneum; wound closed (e) August 1894. No return of prolapse.

8. (a) Seuvelle (of Toulouse): (b) 2: (c) reported prior to October 1893: (d) I. meso-colon sewed into abdominal wound by four silk sutures: (e) two months later slight mucous membrane prolapse.

9. (a) II intestine itself sewed to abdominal wall: (e) two months later no recurrence.

10. (a) Poncet (of Lyons): (b) 1: (c) reported prior to October 1893: (d) iliac incision; prolapsus reduced by traction; fixation by four buried silk sutures through
aponeurosis, muscle, and peritoneum on either side of the wound, and colon beneath: (c) eighteen months later no recurrence.

11. (a) Tuffier (of Paris): (b) 1: (c) reported prior to October 1893: (d) lumbar colotomy; vertical lumbar incision; fixation of colon to lumbar aponeurosis; (e) seven months later return of prolapse.

12. Boffin (of Stanes): (b) 1: (c) October 4th 1893: (d) fixation by three sutures through meso-colon, and muscle, fascia, and peritoneum of abdominal wall on either side of wound; also two appendices epiplioico attached to peritoneum at the extremities of the wound: (e) fourteen days later no recurrence.

13 & 14. (a) Dr — (of Melbourne): (b) 2: (c) in 1893: (d) sutured meso-rectum into abdominal wound; (e) "excellent results." (Tuttle, New York Medical Journal, Jan 11th 1896).

15 & 16. (a) Lennander (of Sweden): (b) 2: (c) operated on in 1893: (d) fixation of sigmoid to anterior abdominal wall.
(c) after eighteen and fourteen months respectively, no return of prolapsus in either case.

17. (a) - ; (b) 1; (c) not known; (d) not known; (e) (stated by Borelius in "Hygeia" 1894.)

18. (a) Jacques Borelius (of Sweden); (b) 1;
(c) Jan 22nd 1894; (d) incision above left Poupart's ligament; prolapse reduced by traction; fixation of meso-rectum to the lower edge of the wound by a deep suture; intestine sutured to parietal peritoneum; wound closed by three layers of sutures; (e) July 14th 1894; a slight prolapse occurs at nearly every defecation.

19. (a) Josef Bogdanik (of Vienna); (b) 1;
(c) May 10th 1894; (d) sewed colon with continuous catgut suture to peritoneum first on one side of the wound and then on the other; the serous surfaces to be coated were first scratched with a needle; (e) June 10th 1894, discharged cured.

20. (a) John F. Erdmann (of New York)
(b) 1. (c) July 14th, 1894: (d) prolapse reduced by traction; meso-sigmoid attached to parietal peritoneum by two or three sutures introduced through mesentery parallel to the course of the vessels; intestine itself anchored by sutures through divided peritoneum on either side, and including longitudinal fibres of sigmoid beneath; closure of wound by a row of sutures through peritoneum, fascia, and muscles, and one through skin; later, established artificial annus through original wound; (e) eighteen months later patient died; had had no recurrence of prolapse.

21. (a) Josef Bogdaniuk (of Vienna): (b) 1. (c) August 18th, 1894: (d) same technique as in his previous operation of May 10th, 1894 (see supra); (e) Sept 12th, 1894 discharged cured.

22. (a) Faddy (of Calcutta): (b) 1. (c) Sept 16th, 1894: (d) incision three inches long, parallel with, and two inches internal to, Poupart's ligament; prolapse
reduced by traction; fixation by two mattress sutures, placed two inches apart, passing through muscles and peritoneum one inch from lower margin of wound and meso-rectum; peritoneum united with fine silk sutures which also included the adjacent appendices epiploicae; muscles sutured with fine silk, and skin with silk worm gut; (c) Nov 6th 1894, cured.

23. (a) Dr Berger (of France); (b) 1; (c) not known; (d) left inguinal incision; prolapse reduced by traction; loop of sigmoid held outside of wound by glass rod through meso-sigmoid; nine days later iliac anus established; several months later iliac anus closed; (e) several months after operation no recurrence of prolapse.

24. (a) John F. Erdmann (of New York); (b) 1; (c) Feb 5, 1895; (d) same technique as in his operation of July 4th 1894, with the exception that no iliac anus was subsequently made; case had
suloinvolution of uterus associated with prolapse of rectum; (c) eight or ten months later prolapse recurred.

25. (a) George D. Stewart, (of New York); (b) 1; (c) summer of 1895; (d) incision as for inguinal colotomy; fixation of meso-colon to abdominal wall by two sutures; sewed peritoneal opening with sutures, which included the serous and muscular coats of adjacent colon as elevated, holding it in situ; wound closed; (e) three months later prolapse recurred.

26. (a) Farquhar (of Vienna); (b) 1; (c) Sept 5, 1895; (d) colon elevated to reduce prolapse; fixation of meso-colon by five catgut sutures to parietal peritoneum; fixation of intestine itself to parietal peritoneum by three catgut stitches; closure of peritoneal opening with cat-gut; closure of abdominal wound; total prolapse of rectum retained with a tampon; (e) two and a half months after operation, no recurrence.

27. (a) John J. Erdmann (of New York)
(b) 1: (c) Sept 12, 1895: (d) same technique as in his second case operated on Feb 6, 1895 (see supra): (c) a number of months later no recurrence.

28. (a) I. F. Tuttle (of New York): (b) 1: (c) Jan 1896: (d) two sutures about one and a half inches apart; sutured the colon into the upper and lower angles of the abdominal wound; the intermediate portion of colon was sutured to skin as for inguinal colotomy; healing by granulation: (e) nine months later no recurrence.

29. (a) Joseph D. Bryant (of New York): (b) 1: (c) Oct 31, 1896: (d) lips of old left inguinal fistula (about one-third inch diameter) drawn together with suture; prolapse reduced by traction, after making incision around fistula, and downward and inward from fistula for about three inches entering abdominal cavity; sigmoid attached to parietal peritoneum on both sides of incision by continuous quilt suture, leaving longitudinal
fibrous band in bottom of wound; sutures closing the wound included the parietes on either side; and longitudinal fibrous bands of sigmoid in bottom of wound; skin around fistula stitched in situ: (e) nine months no return.

Classification according to Periods of Time elapsing between the operation and the Latest Observation of the Case.

Three cases (numbers 2, 13, & 14.) the dates not being given, cannot be included in the classification.

These included one case in which all the appendices of the sigmoid were attached by one suture to the abdominal wall in which the meso-colon was sewed into the abdominal wound, in which "excellent results" were claimed.

Condition of Cases Reported from Two weeks to One Month after Operation.

Four cases (Nos 12, 19, 21 & 22.) all showing no return of prolapse.
Condition of Cases Reported from One to Three Months after Operation.

Two cases (Nos 3, 8, 9, 17, 25 & 26), in which four showed no return, one a slight return, and one a considerable return.

In three of the four cured, the points of attachment were as follows: (a) colon attached to abdominal wall by transfixion, and to peritoneum by suture; (b) colon sutured to abdominal wall; (c) colon and meso-colon both attached to peritoneum.

In the fourth, the technique is not known.

In the case of slight return the meso-colon was attached to the abdominal wound.

In the case of return, the colon was attached to the peritoneum and the meso-colon to the abdominal wall.

Condition of Cases Reported from Six to Ten Months after Operation.

Seven cases (Nos 11, 18, 23, 24, 27, 28 & 29)
of which four had no recurrence, one a slight recurrence, and two considerable recurrence.

In the four cured, the points of attachment were as follows: (a) colon attached to wound, an artificial anus formed; (b) fibrous bands and meso-colon both attached to peritoneum; (c) colon attached to abdominal wound and skin; (d) colon attached to peritoneum and fibrous bands drawn into wound.

In the case of slight recurrence the colon was attached to peritoneum and meso-colon to abdominal wall.

Of the two cases of complete return, one had the colon attached to the lumbar aponeurosis, and the other, which was complicated with a sub- involuted uterus, had the fibrous bands and the meso-colon both attached to the peritoneum.

**Condition of Cases Reported**

One Year and over after Operation.

Nine cases (Nos 1, 4, 5, 6, 7, 10, 15, 16, & 20.)
of which eight were cured, and one had recurrence of prolapse.

Points of attachment in the eight cases cured: (a) colon and two appendices attached to abdominal wound, iliac anus; (d) two cases in which meso-colon was attached to peritoneum and Poupart’s ligament; (e) colon attached to peritoneum, and meso-colon to abdominal wall and Poupart’s ligament; (d) three cases where colon attached to abdominal wall; (e) fibrous bands and meso-colon both attached to peritoneum - artificial anus.

In the one case in which there was return, the meso-colon was attached to the peritoneum and Poupart’s ligament.
Professor Morton, of University College, Bristol, reports an interesting case of ventrification of the sigmoid flexure for prolapse of the rectum in an Adult.

A married woman, aged 24, had suffered from prolapse for two years, it commenced during the latter part of pregnancy. When admitted into Hospital the whole thickness of the rectal wall protruded for three inches. It could be easily returned, but no means could be found to keep it up.

An incision was made an inch above, and parallel to, Poupart's ligament. And the abdominal wall divided so as to weaken it as little as possible, thus -

The external oblique was divided in the course of its fibres, and the internal oblique and transversalis at right angles to this, that is, in the direction of their fibres. The peritoneum was divided in the line of the skin incision.

The sigmoid flexure was drawn up until the prolapse was reduced.

The upper part of the rectum was now on the stretch, and with the bowel in this position the meso-sigmoid at its lower part was stitched with fine silk to the parietal peritoneum at the top of the wound in the following manner.

Two silk threads were passed through the meso-sigmoid at a distance of about one inch.

By pulling on these a fold of meso-sigmoid was drawn forwards, and at the same time the bowel pushed back under the abdominal wall.

The upper thread was then passed through the two edges of parietal peritoneum in the upper angle of the wound, and tied, thus fixing the meso-sigmoid, and at the same time closing the upper angle of the wound.

The lower thread was tied in the same way, about the middle of the wound.

Two or three other sutures were then passed through the edges of the parietal peritoneum, and the fold of meso-sigmoid in the centre, and tied.
Finally, the muscular layers of the abdominal wall were carefully sutured, and the skin wound closed.

The patient made a good recovery, and left the Hospital with no signs of prolapse. Some months after the operation there was very slight prolapse of mucous membrane during defecation, but the case had been greatly benefited by the operation.
As I have been unable to discover any other case reported in which an abdominal section had to be undertaken for the release of a strangulated "complete prolapse" of the rectum, I venture to describe somewhat fully the following case, in which I operated for this condition, and ultimately cured the chronic prolapse by anchoring the sigmoid to the abdominal wall.

The Editor of the "Lancet" prefaced my report with the following remarks: "It is not improbable that in the following case there was some abnormality in the length and arrangement of the meso-rectum which predisposed to prolapse, and as it had lasted for twenty months it is strange that the prolapse had never become chronic but had always been readily returnable.

The chief interest in the case is, however, connected with the operation, which was performed for the permanent cure of the condition.

Abdominal section in this case not only offered a means of reducing the prolapse, but afforded an opportunity for permanently preventing its recurrence.

The favourable result of the laparotomy is noteworthy in so young a child, especially when it is remembered that the operation was somewhat prolonged.

As Dr. Carlyon points out in his remarks, the operation has only been performed in a few cases.

The first "colopexy" was apparently done by Berg who operated in all six cases.

It can only be advisable in those rare acute cases in which it is found impossible to return the prolapsed bowel by pressure from below."

On October 4th, 1899, an emaciated female child, aged twenty months, was sent into the Royal Cornwall Infirmary by one of my colleagues with the following history:
Since birth the child had never had an action of the bowel without the help of an enema, prolapse of some portion of the bowel always following the very constipated stool; the mother had experienced no difficulty in returning it.

On the above date a much larger amount of gut descended, and finding that she could not deal with it she sent for her family medical adviser who, finding all attempts at reduction futile, sent the child into the Infirmary.

I saw the patient some four hours after the prolapse had taken place; she was suffering greatly from what appeared to be shock, possibly from the pain of repeated attempts at reduction.

The child was cold, her face was blanched, the lips were livid, and the tongue was protruded.

No pulse could be felt at the wrist and she showed little sign of consciousness.

From time to time violent contractions of the gut within the abdomen took place, plainly observable through the thin
abdominal wall.

The prolapsed gut was intensely congested and showed as a dark red irregular oval tumour measuring seven inches in length, and was not in the least affected by the straining.

I soon convinced myself that further taxis was not only futile but dangerous, excision of so great a mass was out of the question, and seeing that the little patient was sinking rapidly, I decided to open the abdomen at once.

This was done with the usual precautions, an incision being made as for left inguinal solotomy.

The large intestine was easily found, though the small gut gave an infinite amount of trouble due to the constant straining which the small amount of chloroform that the administrator dared to administer did little to diminish.

Following the colon through the pelvis to the anal outlet the fingers came to the hard mass of protruded bowel firmly fixed.
After some fifteen minutes of gentle traction, combined with careful manipulation and compression from without, the whole of the gut was safely returned to the abdominal cavity.

The colon was passed upwards until the sigmoid came into view, which was anchored in the following manner.

Three sutures of silk-wool gut were passed through the entire thickness of the abdominal wall on the one side of the incision, thence through the serous and muscular coats of the gut for an inch of its circumference, and finally through the abdominal wall on the other side. These were pulled up and tied so that a portion of the wall of the gut was pinched between the muscular walls of the incision, in the hope that they would become thoroughly adherent to it. Finally, the skin edges were carefully brought together, entirely concealing the gut.

The wound was dressed in the ordinary way and a pad applied to the anus by
a T-bandage.

A small enema of brandy and beef-tea was given and the child was put into a well warmed bed.

Improvement was almost immediate, consciousness returning together with a fair pulse and good colour.

During the first night the child was given small quantities of milk by the hand, and in the morning she clamoured for, and was given, her usual bottle of milk, with a little water added; this was continued regularly at intervals of two and a half hours.

Eighteen hours after the operation, and for the first time in her life, the child had a natural unassisted action of the bowels, with apparently no pain and no attempt at prolapse, and the straining diminished in violence.

All went well until the fifth day when the Charge Nurse on going to attend to the child found her again in a condition of collapse.

Dr. Addie White, the House Surgeon was
summoned and on undoing the dressings he found that most of the small, and some part of the large intestine, had escaped from the abdominal cavity. The stitches having torn through the skin wall on the right side of the wound; to the left side the sigmoid had become firmly attached.

Dr. White, after thoroughly cleansing the bowel, returned it to the abdomen, and having freshened the edges of the wound once more brought them together with silk-worm gut, further supporting the wound with long strips of plasters.

No ill effects followed the accident, the child making an uninterrupted recovery.

She had a natural action of the bowel daily and no return of the prolapse.

The was sent home on October 29th, with the wound firmly healed, and considerably fatter than when she came into Hospital.

**Subsequent history**

I have had frequent opportunities of
examining the child during the eighteen months that have elapsed since the operation.

The rectum is perfectly healthy, the anus is under complete control, and there has never been any attempt at further prolapse.
Concluding Remarks.

I have endeavoured to show in the earlier pages of this Treatise that the majority of cases of prolapse of the rectum yield to simple measures.

And that removal of the cause, where possible, and the careful carrying-out for a lengthy period, of one or more of the various forms of palliative treatment, will generally render active surgical interference unnecessary.

It is a matter of common experience that, though prolapse is chiefly met with in the two extremes of life, it is particularly during the middle period that the condition calls for operative procedure.

Study of the literature on this subject clearly shows that in childhood surgical treatment is seldom necessary, while in the aged the prolapse often induces so little inconvenience, or the state of the patient's health is such, as to forbid any but the most pressing surgical operations.
Operative Treatment.

Prominent among the rapid advances in surgical science is the operative treatment of these cases, which until recently were, when extensive, considered incurable.

No further comment is necessary upon the older methods of operative treatment, which have, by reason of their danger to life, inefficient results, and oft-times unpleasant consequences, fallen into disuse.

Treatment by Clamp and Cauter; by simple ligature, by the excision of elliptical folds of skin and mucous membrane is permissible in certain mild cases of the incomplete form, when other means have failed.

Treatment by the application of strong acids is I believe, in the case of otherwise healthy children, in whom milder measures have not been successful, the best remedy.
In healthy adults it is certainly not so useful in setting up the desired amount of inflammation as the actual cautery. In old persons, or in those with a broken down constitution, it is to be deprecated, as deep sloughing with its many dangers, is more than likely to result.

Each of the more recently advanced operations, i.e. Linear Cauterization, excision, and Biopsy, has its group of strong supporters. But I venture to assert that the choice of operation must entirely depend upon the condition and history of each individual case offering itself, and not upon the merits or demerits of any particular method, if success is to follow our endeavours.

Of Linear Cauterization, it may be said that the measure is a painful one; that more or less sloughing is inevitable, with its consequent dangers of haemorrhage and cicatricial contraction, and that it
necessitates long confinement to bed.
While on the other hand we have the
highly valued opinions of those eminent
surgeons, Pan Buren, and Harrison
Cripps, who regard it as "a safe and
simple operative procedure"; which, in
their hands, it has certainly proved
to be.

The operation is undoubtedly founded on
sound physiological principles, and, all
things being equal, I think decidedly
less hazardous than the operation by
excision.

Of the operation by excision Mr. Treves
says: - "The method is simple and
final, it involves no protracted period
of after treatment, it induces little
pain, it leaves a simple wound
which is open to inspection, a clean
incision is substituted for a burnt and
gangrenous surface, the operation area
is reduced to a minimum, no damaged
bowel is left in pelvis, haemorrhage may
be rendered practically impossible, and
the risk of subsequent stricture can hardly be said to exist."

Were these many virtues supported by an unbroken record of good results, we should indeed have little difficulty in the selection of the method of operating.

But on the other side of the picture we are confronted by the risk to life from septic infection, which must always exist where a large prolapse involving the peritoneal pouch is to be dealt with by excision.

Many of us have yet to learn that the subsequent risk of stricture "hardly exists."

A correspondent, signing himself "Hospital Surgeon" writing to the Lancet March 8th 1890, cites two cases of obstinate stricture following the operation of excision, one being a case on which Mr. Treves performed the operation.

This however only emphasises the necessity of the frequent passage of rectal bougies, and by no means forms a bar to the operation, which is still advocated by many able surgeons.
The excision of some six or eight inches of prolapse with probable involvement of peritoneum, cannot be classified as other than a severe operation.

Records of this operation during the last four or five years have been few and far between, indicating, I take it, that surgeons have been endeavouring to find a safer method.

The Operation of Colopexy, since its introduction by Saenell in the year 1889, has gradually found favour, and it is at the present time, I venture to think, the safest and surest method of dealing with this distressing condition. Dr. Bryant's collected statistics go far to show that the operation is attended with little or no risk to life, at the same time giving great expectation of ultimate cure, which, with improvement of the technique, may be confidently looked for, in picked cases, in the near future.

The principles involved are thoroughly
sound, having for their object the reduction of the prolapsed gut and the permanent fixation of it in its proper position without injury to its structure or mutilation of its continuity.

The fear of subsequent stricture is dismissed.

The case must indeed be a very exceptional one, I think, in which an opening into the bowel, either for the purpose of forming an artificial anus, or even that caused by the passage of sutures through its lumen, is warranted.

In one case under my care, the intraperitoneal route appeared to be the only safe way of reducing a badly strangulated prolapse.

Which of the many plans of intestinal and parietal attachment is likely to prove of the greatest value, time and experience alone can show.

For my own part, I intend on the first suitable case, offering itself to try the plan of transfixing the meso-
sigmoid or meso-rectum with several
deep sutures of carefully prepared silk, and passing them through the peritoneum and aponeurosis muscle at different points, finally to knot them over the latter.