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Prof. Valentine Mott
with respects of the publishers—

DISEASES OF THE RECTUM.

THE

DISEASES OF THE RECTUM.

BY

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ADVERTISEMENT.

This treatise is founded on a series of clinical lectures. In preparing it for publication I have not thought it necessary to alter the colloquial or personal form which oral addresses naturally assume.

I have further only to acknowledge the assistance afforded me. To the Council of University College my thanks are due for having given me their ready permission to use the Anatomical Museum of the College for the purposes of this publication. To the Museum Committee of the College of Surgeons I owe a similar acknowledgment.

I am indebted to Mr. Quekett of the College of Surgeons for having at my request submitted some of the preparations in the Museum under his charge to a new examination, as well as for the aid of his microscopical skill on several occasions; and

to Mr. Thomas G. Fitzgerald, formerly House Surgeon in the Hospital, now on the staff of the army, for the use of his copious notes of the Lectures as they were delivered.

NOTICE TO THE SECOND EDITION.

THE first edition of this treatise was published in the early part of last year. In preparing this edition I have revised and reconsidered every part, and have made additions to the subjects treated of.

RICHARD QUAIN.

32, CAVENDISH SQUARE,
November, 1855.

ALVINE CONCRETIONS.

FOREIGN BODIES.

TABLE OF THE CASES.

ERRATA.

Page 9, in the heading, *for* "management of," *read* "management after"

178, in note, *for* "actoin," *read* "action"

267, at middle of page, *for* "effects of the disease of," *read* "effects of the disease on"

DISEASES OF THE RECTUM.

I AM about to draw your attention in a series of Lectures to a class of diseases—those of the Rectum (intestinum rectum)—which in not a few points of view deserve to be made the subject of careful clinical study. The suffering some of those diseases entail is, in truth, great; their diagnosis is often obscure; their treatment imperfectly established; and lastly, their management has been so much intrusted to a special class of practitioners, that the student of general surgery commonly enjoys but limited opportunities of becoming practically acquainted with their history and peculiarities. The observations I propose to lay before you are all based on,—indeed are simply illustrative of, cases which have been under my immediate care.

The arrangement, in so far as the accomplishment of our present purpose admits, will be the same as that of my ordinary clinical lectures. It is a necessary part of the plan of those lectures that the history of the patient shall be taken first, but here,

on account of the wider scope of the design, the histories of several cases exhibiting the most important of the phases of each disease will precede the general commentary upon it.

As the object which it is my purpose to keep in view is not the study of the natural history of disease, but the history of patients, their ailments and their cure, the classification of the subjects of these lectures—beyond the grouping together those that present obvious affinities—is unimportant. I shall therefore proceed at once to the individual diseases, and first to one the most frequently met with.

HÆMORRHOIDS: PILES.

The technical term, strictly or etymologically regarded, means a discharge of blood merely. Though at one time used in a more extended sense, it has been restricted for a very long period to disease affecting the rectum; and vascular tumours of that part, whether attended with a discharge of blood or not, have been named hæmorrhoids.

Certain distinctions are admitted by surgeons:—thus, a very old one, according as there is or is not a loss of blood, 'blind' or 'bleeding piles,'—'hæmorrhoides cæcæ' or 'apertæ' of ancient surgery; and again, according to the position, whether the tumour be in view or concealed within the bowel, 'external' and 'internal.' These distinctions are preserved, and we shall by-and-by see that, like most things

which stand the test of time, they are not immaterial, inasmuch as the position of the tumour and the condition indicated by the terms referred to, have their influence in determining the method of treatment. Why this is so, we shall see hereafter. The disease seldom affects the very young; but it is remarkable, that few persons attain to middle life without suffering from it more or less. It is met with equally in both sexes. The degree in which it affects different persons is very various, and it has a tendency to increase if unchecked. But these and other circumstances will best appear by reference to our cases, to which I now proceed. I shall begin with an instance of the earliest form of the disease that requires medical treatment.

Internal Hæmorrhoids prolapsed.—Constitutional Disturbance.—Inactive Habits.—Constipated Bowels.

Case 1.—Mr. J. R., a barrister, aged 32, applied to me, expressing an earnest desire that I should do anything necessary to relieve him as speedily as possible from a painful 'attack of piles.' He had been suffering about twenty-four hours. Upon examination, I found the margin of the anus concealed by large and very dark-coloured growths, the thickness of a full-sized finger, completely encircling the orifice of the bowel, and only parted by slight depressions. They had very much the appearance of large leeches gorged with blood. At the inner side of this external dark circular tumour (it might be said in the

middle), there appeared a single projecting papilla, which was easily distinguished by its shape and colour from the surrounding mass. It was of a vivid red colour, and about the size of the end of the little finger. The external larger tumour gave the idea of a very large vein or veins, with thin walls, distended with dark blood. The inner one seemed as if filled with arterial blood. There had been but very little bleeding—no more than a slight trace during the evacuation of the bowels. When questioned, the patient complained of heat and throbbing pain at the end of the bowel, as well as of the feeling of a foreign body there. The sitting posture was stated to be distressing; and he threw himself back on his chair to prevent pressure on the tumour. Such was the history of the local complaint; but this was not the whole of the malady. The tongue was somewhat furred; it was also larger—broader and thicker—than natural; and, in consequence of this, was tooth-marked upon its sides. The alvine evacuations were few and scanty; and there was little or no appetite for food. Concurrently with this condition of the alimentary canal, and probably consequent upon it, there was heat of skin with restlessness and a general feeling of discomfort.

The condition thus sketched out, is what was called by the patient, 'an attack of piles,' and it is usually so named; but, in fact, the state of the rectum in such a case is but part of a more general ailment. The whole intestinal canal is affected.

That there is congestion of the canal, we have evidence in the state of the tongue, as well as in the condition of the blood-vessels of the rectum; and to the direct evidence afforded by the parts which are in view must be added the inference respecting the state of the stomach and other parts of the intestine, as well as of the liver, to be drawn from the loss of appetite for food, and the deficient and depraved alvine evacuations. The hæmorrhoid is particularly referred to by the patient, because this is the most painful portion of the malady and the most obvious. The organisation of this part, as of others that may be termed outlets of the body, will explain why so much uneasiness is produced by even a small amount of disease in it. And now as to the treatment of our case:—

The patient was sent to bed; warm fomentations were applied to the chief local malady; food was disallowed, with the exception of some common drink and a little bread; and a spoonful of castor-oil was given:—to this medicine, it may be mentioned, the patient had for some time been habituated. After the bowels had acted, citrate of potash with nitre was prescribed, with the view of acting upon the skin and kidneys. In two days this patient was returned to business.

In such a case, the chief part of the cure consists in general and medical management rather than strictly surgical interference. The horizontal position of the body is useful, obviously on account of its

effect upon the flow of blood in the veins of the bowel. But, indeed, independently of the actual painfulness of the sitting posture, where there is an irreducible protrusion of the hæmorrhoids, the patient is most comfortable when lying down, on account of the general uneasiness and prostration of strength that he feels. To this it must be added, that the warm and equable temperature of bed has its use, all the more, too, if a degree of perspiration should come on. And, while the vascular congestion, which is the essence of the disease, is being relieved by the natural emunctories of the body, the 'ingesta' should be in very small quantity, as well as of the least stimulating kind. Precept, however, is scarcely necessary with respect to abstinence, for there is little if any appetite for food.

The hæmorrhoidal tumour, if it be one that has descended from within the sphincter, ought to be returned, provided the replacement can be effected with gentle continued pressure, and without giving much pain. This is often most easily accomplished by the patient. Should there be much local distress, a few leeches may be applied with advantage, not, however, upon, but in the near neighbourhood of the tumour. Under this management, even a severe attack subsides in two or three days. The hæmorrhoids collapse, the tongue assumes in a great degree its natural size and appearance, and the appetite returns.

But now another consideration arises. The patient,

Mr. R., had indeed recovered, but he had recovered in somewhat the same way from previous attacks. If left to himself, he would again and again have had to pass over the same course of frequent ailing and occasional suffering, until at length there would have been established a lasting local disease. Our task is not accomplished when the attack which has summoned us to the patient has been subdued. He is not then to be consigned, at least not without admonition, to his old course of life, and his frequent use of drugs. Our duty plainly is, to seek for the source of his malady, and, if possible, remove it. This brings us to the causes of his suffering, and of the hæmorrhoidal affection.

You will find it stated in books, that enlargement or induration of the liver is a cause of piles; so also, that abdominal tumours, and pregnancy in the female, give rise severally to this complaint. The statements are quite correct. I have repeatedly seen examples of hæmorrhoids existing in connection with each of these conditions, and probably occasioned by them; but in far the greater number of cases the hæmorrhoidal complaint exists without any other appreciable organic change. In the case above cited, there was no such cause. For the origin of the local disorder in our patient we must, therefore, look elsewhere. I found that Mr. J. R. had, for a few years, led a very inactive life; that he was in the habit of sitting in his chambers nearly all day, and up to a late hour at night, only relaxing when

he went to dine at his club. He ate a full dinner usually, and drank a moderate quantity of beer and wine. Frequently, in consequence of a feeling of fulness and throbbing in his head, which interfered with sleep, this gentleman, of his own accord, resorted to the use of purgatives, and, under eminent advice, he also took, during some time, various medicines—among others an alkali with hydrocyanic acid. These means, however, produced no lasting improvement; and it is not probable that any drug would have been permanently beneficial while the habits of the patient continued unaltered. For, with such a course of life, while blood was formed and doubtless in abundance, there was but little demand for it, so to say, except towards the brain and the digestive organs. The muscles of the limbs were little used. The skin was inactive. So, likewise, judging from the torpor of the bowels and the character of the evacuations, was the liver. By such circumstances, the congestion of the head and of the alimentary canal may be reasonably accounted for.

But how in such a case is relief, and that as permanent as possible, to be afforded? My answer is: Not by the continued use of drugs, but by attention in detail to the various circumstances which conduce to the maintenance of a healthy state of the system. Thus, while the diet is regulated—made more moderate in quantity as well as less stimulating, the skin is to be thoroughly cleansed by daily ablution. Active exercise is to be

taken for, at least, a couple of hours each day, afoot or on horseback; and the effect of this, it is to be borne in mind, is all the more salutary if a degree of perspiration accompanies the vigorous exercise of the limbs. By the action of the skin (which is one of the great emunctories of the system), and the increased nutrition of the muscles, the internal congestion, before adverted to, is removed or prevented; and a feeling of lightness and elasticity —of health, in a word—is substituted for the former feeling of heaviness and discomfort. During five years, the gentleman whose case forms the ground-work of these observations has pursued this plan, taking his exercise on horseback; and during that space of time he has been free from any recurrence of the hæmorrhoidal affection, as well as from (with only occasional exceptions easily accounted for) the throbbing of his head and uneasiness down the left arm. It is not always easy to convince people that medicine cannot safely be made a substitute for moderation in diet, pure air, and exercise of the limbs—in short, for all the natural circumstances which experience shows to be necessary for the preservation of health. To the person of sedentary habits, the aperient drug gives relief for the moment, as it not only evacuates the bowels, but also unloads the blood-vessels of the abdomen in a degree, by exciting a serous or watery discharge from them. When absolutely necessary, and for an occasion, the purgative is as salutary as it is an efficient aid in

the removal of the attack of illness. In this way, it is really beneficial,—not so, however, its continued use. Besides, the fact is not to be overlooked, that the frequent resort to aperient medicine creates a strong desire for the continuance of the practice, owing, it is said by those who experience the effect, to the sense of 'ease and lightness' it occasions. So, in time, a habit is created—one, too, as difficult to be got rid of as any other habit.* Our patient admitted, that, for several years, he had commonly taken purgative pills with senna draughts or castor-oil once or twice a-week; and that, when leaving home, he used to consider medicine of that kind as much a necessary part of his luggage as any portion of his wardrobe.

I have here adverted in general terms to the plan of management, dietetic and medicinal, that it is proper to pursue. In actual practice, all must be stated in detail; and it is best, in most cases, that the instructions for diet and general management should be written down, as well as those for medicine. Remember that, as much of the illness men

* A few years ago a case came to my knowledge which will serve to illustrate the baneful influence of the habit of using purgative medicine. The commander of a merchant vessel, a person of robust frame and much ability in his profession, began to take Morrison's pills to relieve constipation of the bowels at sea. Continuing the use of the medicine, he became in time reduced to extreme debility from constant purging. At length the appetite grew by what it fed on to such an extent, that when confined to his bed from mere weakness, and unable to swallow the pills whole, the unhappy man had them bruised in a mortar, and took them with a spoon. He died of the drug.

suffer is caused by the common things with which we are constantly surrounded, so the relief and prevention of the evil are, in a great measure, to be obtained by the direction and control of these. Common things must be carefully attended to; things that are not common will command attention.

We have had before us a case in which the local treatment was of the simplest kind. There was no operative interference. Had the attack been more severe, the local suffering greater, it would have been useful to apply leeches, as mentioned in a former part of this lecture; or relief may, in such circumstances, be afforded by puncturing the tumours. This expedient relieves by removing the distension. A degree further of interference becomes necessary, with a slight additional increase or alteration of the local malady. This condition is illustrated by the case of a gentleman to whom I was summoned some time since.

Inflamed Hæmorrhoidal Tumour.

Case 2.—Mr. H., the gentleman alluded to, having been closely engaged in a course of investigation into an important scientific subject, had been very negligent of his health, and, in consequence, became affected with an acute attack of hæmorrhoids. The tumour, a round venous-looking mass, became very hard, and was intensely painful. The hæmorrhoid was, in fact, strangulated by the sphincter ani. This state is met with in various extent, and with a very

various amount of suffering. It is remedied, not by puncture, but by free incision of the swelling. When the hæmorrhoid is divided, a clot of blood is turned out, and relief soon follows. The part cicatrizes in the usual way, and the cure of that tumour is complete. If, however, the inflamed hæmorrhoid should not be interfered with by the surgeon, it is, nevertheless, closed by the adhesive process, and the swelling subsides on the subsidence of inflammatory action. But the suffering in these circumstances is more protracted, and a degree more of thickening commonly remains afterwards.

We are next to proceed a step further,—from the form, that is to say, of hæmorrhoidal disease, in which the altered condition of the vessels of the rectum is a part as well as an indication of a more general malady, and disappears without operative interference on the part of the surgeon, or with but little, to a more advanced form of the complaint, in which the hæmorrhoid is become a substantive disease, requiring local management, and, for the most part, remaining permanently, with more or less inconvenience to the patient. The vessels here are more than dilated. Their walls are thickened in consequence of the repeated inflammatory attacks to which they are subjected. They become tortuous as well; and there is often added a deposit of fibrinous matter, by which the vessels are glued together, and an indurated tumour is built up. This change occurs most extensively in external piles.

Many persons continue through life to suffer inconvenience from hæmorrhoids in the condition here adverted to; and, if the inconvenience be not considerable, or if their presence be not attended with effects otherwise injurious, as, for example, with much pain or bleeding, it is best, as regards local management, to resort to palliative means only.

Like most other parts that are not in a natural or entirely healthy state, the hæmorrhoids are liable to be affected by attacks of general ill-health. As the joints of the gouty man, the morbid urethra of another, or the tender eye-lids of a third, suffer especially in case of even slight general derangement, so do the diseased hæmorrhoidal vessels partake in any disturbance of health. It is not that the gouty joint or the hæmorrhoid is alone diseased, but that, being previously in an altered state, these parts respectively take on unhealthy action more abundantly than other sound structures, or that the additional disorder, whatever its amount, is more felt on account of the preceding disease. Moreover, as it is the digestive apparatus which suffers most frequently in slight ailments—from irregularities of diet, for instance—the hæmorrhoids, on account of their direct connection with the vascular system of the alimentary canal, are influenced by the general excited or altered action of the part; and they therefore often become a source of inconvenience, being in the intervals of such attacks quiescent. A case

known to your professor, Dr. Sharpey, may here be briefly mentioned, being apt to our present purpose.

Habitual recurrence of bleeding from Hæmorrhoids in small quantity; approach of bleeding indicated by change in the appearance of a small nævus.

Case 3.—A gentleman now advanced in life has been habitually subject, since he was a young man, to bleeding from piles. These are not otherwise troublesome, and the bleeding has not been considerable in amount. Such circumstances are so common as to be almost daily met with; but there is here one peculiarity worthy of notice, namely, that this gentleman has always been able to predict the occurrence of the hæmorrhage. He is enabled to do this from having long observed that a peculiar feeling of general discomfort and fulness, as well as a change of the colour of a spot at the root of his nose, always usher in the discharge of blood. The spot —a vascular one—at the times adverted to becomes red, i.e., it is perceptibly deepened in colour. Relief from the general uneasiness is obtained when the bleeding takes place; and at the same time the little index-spot resumes its ordinary appearance. Whether the loss of a small quantity of blood actually occasion the improvement in such circumstances, or the hæmorrhage but indicate the alteration in the state of that fluid which probably accompanies the cessation of disease, or whether both these modes of viewing the subject be in part

theoretically correct, it is not material to the present purpose that I should stop to inquire. It is enough to say, that there is here another proof that the hæmorrhoid is to be regarded as part of a general ailment. At the same time the case well illustrates that degree of the hæmorrhoidal disease and of hæmorrhage which it would be improper to interfere with. But to the evils of interference in unsuitable cases we shall return hereafter.

For the general management of the class of cases alluded to in the foregoing observations, the rules laid down in a former part of the lecture are applicable. An acute attack is conducted to its termination in the same way. When the state of the local malady admits it, active exercise is to be taken, so far as the condition of the patient's strength allows. The same attention to the state and the functions of the skin is required; so likewise is the same watchfulness respecting the quantity and the quality of the food to be observed. Yet, even with good management in these respects, habitual sluggishness of the bowels often accompanies the hæmorrhoidal disease. The use of aperient medicines then becomes necessary. When resorted to, the aperient medicines ought to be such as unload the bowel with the smallest degree of irritation, and the quantity as small as shall be sufficient for the purpose. Purging or looseness of the bowels gives rise to pain and aggravates the local malady. That condition is therefore to be guarded against as is consti-

pation. A few words may be added respecting the medicine to be used when medicine is absolutely required. Common opinion has assigned to castor-oil a character of blandness (probably because of its being an oil) to which it is not entitled. It is an efficient purgative, but, except when given in minute quantities, it usually irritates the rectum. Although saline purgatives, when taken in any considerable dose, increase or give rise to flatulency, which is often a troublesome accompaniment of the hæmorrhoidal state, it is not so when the dose is small. An aperient salt in small quantity, or an aperient mineral water, is often beneficial. So likewise is the confection of senna, alone or with various adjuncts. But the kind of drug and the dose must be determined for each case. To such medicines the enema of cold or tepid water, used daily, will be a useful auxiliary; or this means, should it prove adequate to the purpose, may take the place of all other remedies. At the same time, it is expedient that no effort should be wanting to attain the end in view by the management of the diet and attention to other natural circumstances, rather than by direct action on the canal either by the use of drugs or of the other expedient adverted to.

By a sort of tradition in the profession, Ward's paste (confectio piperis) has for a long period maintained no inconsiderable repute in the treatment of hæmorrhoids and some other complaints of the rectum. I have thought that the advantage which

sometimes seems to arise from the use of this substance might be owing to the effect of the spices of which it consists, in controlling the flatulency and relieving general discomfort, but a different rationale has been given by Sir E. Home and Sir B. Brodie, namely, that the advantage is derived from the immediate contact of the confection with the diseased part after passing undigested through the intestine.*

Such means as the foregoing are, it is to be understood, applicable to cases in which the hæmorrhoidal affection is unaccompanied with evidence of congestion of any important organ—the liver, for instance. Where disease of this kind exists, suitable remedies for its removal will of course be used; but they fall within the domain of general medical treatment, and need not be specified in this place.

As regards the local means to be had recourse to:—The hæmorrhoid, if it has been protruded, must be carefully replaced after each descent; first, however, the swelling is to be sponged with cold water, and it will be advantageous to use also an astringent

* 'In confirmation of this view of the modus operandi of Ward's paste, I may mention (says Sir B. Brodie) an observation of the late Sir Everard Home. He had a patient labouring under piles, and he recommended him to take Ward's paste. The patient, little thinking that something put into the stomach was to cure disease of the rectum, crammed as much as he could bear up the rectum. I dare say it gave him a great deal of inconvenience, but, as Sir E. Home reported, it cured him; and Sir Everard said that since then he had used it as a local application in some other cases with manifest advantage.'—Lectures in the 'Medical Gazette,' vol. xvi.

application in the form of lotion or unguent. An ointment of nut-galls is a very old and popular remedy, and I have known it favourably spoken of by patients. The acetate of lead and watery extract of opium made into an ointment, seem to have a beneficial effect. But, if there be any excoriation of the surface, most medicated applications do harm, by irritating the part.

The continued use of the bougie has been recommended in hæmorrhoids of this kind.* According to my experience, the bougie affords in some cases no inconsiderable relief; but its use is not by any means to be regarded as a cure of the complaint. Indeed, we should not expect temporary pressure to exercise a curative influence upon the varicose condition of the hæmorrhoidal veins, when even continuous pressure upon the veins of the foot or leg in a varicose state is known to serve for no more than a support while it remains applied, not in any case for a cure. I have had under my care lately a young lady who had during the nine previous years suffered often and much from hæmorrhoids. When I saw her she was under thirty years of age, and she had long been in the habit of using a metallic instrument three inches in length, calculated to make pressure upon the swelling, and as effective pressure as could be made with a bougie. There was no prolapsus in this case, except of the kind

* Mr. Copeland, in 'Observations on the Principal Diseases of the Rectum,' 3rd edit. p. 66.

which commonly attends internal hæmorrhoids ; and to this extent it occurred only during the acute attacks, which were not frequent. The use of the apparatus had not been attended with any permanently beneficial effect. In this case an operation was required and was performed with a satisfactory result. Still where the operation happens for any reason not to be advisable, the bougie is a useful resource ; and the benefit it produces is probably due as well to its effect on the spasmodic action of the sphincter—to which a large share of the suffering occasioned by hæmorrhoids is assignable—as to the more complete replacement of the hæmorrhoids, and the unloading these by the pressure it exercises upon them.

My object hitherto has been, to show that hæmorrhoids are to be regarded not merely as a local disease, but as part of a more general ailment, and to illustrate the form and degree of the complaint in which a surgical operation for the removal of the hæmorrhoid is not required and not justifiable. The next lecture will exemplify the circumstances under which an operation becomes necessary.

We now come to those aggravated forms of hæmorrhoidal disease for the relief of which the means already adverted to are insufficient, and a surgical operation is absolutely required. The

circumstances which render it necessary to have recourse to an operation, and the plan of carrying it into effect, will best appear in the narrative of a few cases, and the comments upon them. Examples of internal hæmorrhoids will be noticed first; and I will read the notes of the leading facts of a few before proceeding with the commentary upon any. The cases have been selected from a large number, and the selection has been made with a view not only to illustrate various kinds of the complaint, but likewise to show the effect of the treatment at different and even prolonged periods after the patients had passed from under my care. For, in order to arrive at a just opinion respecting the remedy used in this case, as well as in many others, it is not enough to know that the patient continues free from disease for a week or a month after the remedy has been applied; a much longer period is necessary to afford a sufficient appreciation of the efficacy, as well as the safety, of the treatment.

Hæmorrhoids of long standing.—Distress from continual Descent of the Tumour.—Removal of the Disease.—Report some months after Operation.

Case 4. Mr. ——, a gentleman advanced in life, but still energetic and otherwise in good general health, has been subject to obstinate constipation during a great part of his life, and this notwithstanding that he has been active in his habits, as well as careful in the manner of his living. For the

relief of that great inconvenience, he has used at various times, in the words of my friend Mr. Foster, of Huntingdon, who introduced Mr. —— to me, 'all imaginable medicines.' Lately the confection of senna has been taken with advantage. The following is the note made respecting this gentleman's suffering when I first saw him :—

'The hæmorrhoids not only descend when the bowels are evacuated, but even when the patient walks a short distance; and when the protrusion takes place, so much distress is felt, that the immediate replacement of the tumour becomes necessary. Hence Mr. —— is hindered from entering into society as he would desire; and he is subject to the annoyance of being obliged even to avoid walking with his family.'

I found the skin of the anus preternaturally loose; and, with a little effort upon the part of the patient, a complete and thick ring of dark-coloured hæmorrhoids was made to project. The vascular growth starts suddenly out from the surrounding mucous membrane, and its limits are thus clearly defined. The vessels are evidently much thickened.

The hæmorrhoidal mass being brought fairly down, after the action of aperient medicine, three ligatures were applied, and the part was then replaced within the sphincter. The patient was surprised when told that the operation was ended. He subsequently stated that he had suffered nothing that could be called pain, either during the application of

the ligatures or afterwards. There was, he said, a degree of uneasiness, and no more. He slept well that night; was confined to a couch a single day, and went out some way on the next day but one after the operation. The loops of ligatures were separated on the fifth day, and the patient left town in a very few days after. He has since then informed me, by letter, that he is quite free from every appearance of hæmorrhoids and the suffering they occasioned, but that the old constipation continues to be a source of annoyance.

Internal Hæmorrhoids.—Frequent Bleeding and much Suffering during Six Years.—Recovery.—Good Health reported Nine Years after Treatment.

Case 5.—George Youle, aged 27, an engine-maker, was admitted into the hospital Dec. 26, 1844. His face was thin, sallow, and gloomy, expressive of habitual suffering or despondency. He states his habits to have been regular and his health good, with the exception of the complaint for which he sought to be taken into the hospital; the history of which is as follows:—

About six years ago, the patient having been previously in his usual good health, piles were protruded from the bowel, and they bled. At that time he was constantly working eighteen hours a day; and he continued to do so during two years and a half. This was at Gateshead. 'People do,' he says, 'work very hard down yonder.' He has been

often three days, and sometimes a week, without an evacuation from the bowels. Piles came down whenever the bowels acted, and very much through the day as well. He has been for all these years in a constant state of suffering, and he has often lost blood. For as long as three months together, he has been unable to work on account of the illness and debility occasioned by piles and bleeding.

During several years,—indeed from the invasion of the disease up to the time he came into the hospital,—he continued to take 'doctor's medicine' of various kinds, and from many 'doctors.' He was once salivated with a view to the relief of the complaint.

Upon examination, the skin about the anus was found to be prominent, and within this there were seen several dark hæmorrhoids, as well as some of a brighter colour. The hæmorrhoids were in part visible, without any effort being made to force them into view.

After preparation of the patient for a few days, by regulated diet and the action of aperients, the hæmorrhoids were transfixed with ligatures, which were secured as in the preceding case. Four such ligatures were applied. After being tied, the hæmorrhoids, though pressed upwards, were still in part visible, owing to their length and size. During the operation no pain was felt except at a single point, where the part to be tied being low down, a very small portion of the skin was included in one of

the ligatures. It was only when this ligature was being tied that the patient winced for a moment. Two days afterwards there was a good deal of œdematous swelling around the anus. The ligatures came away about the fifth day, and in about a week after Youle left the hospital.

From the time of the operation this man has felt no inconvenience from a malady which, during six successive years, had caused him extreme distress. Recently I have received from Mr. C. W. Hind, of Swindon, where Youle is employed, the following answers to a few questions I requested him to ask of my former patient :—

'Youle never loses blood from the bowel or from any other part. He has not lost any since the operation.

'His bowels act regularly without the assistance of medicine. He never takes any.

'He attributes the improvement entirely to the operation, not to medicine, as he has taken none since he was under your care; neither does he attribute it to any change in his habits, for, although he is now stouter and stronger than he was before, his daily work is the same. Besides, he worked extra work, (until ten or eleven o'clock at night,) after the operation, for a length of time, as he had done at a former period of his life. He is now in perfect health.'

The next case is an example of still greater suffering and depression, continued, too, over a

longer period, the sex and station of life being different from the last case.

Internal Hæmorrhoids. — Confinement during nearly Nine Years from Pain and frequent Bleeding.— Recovery.—Good Health reported Eight Years after Treatment.

Case 6.—The patient, a lady, resident in the Isle of Wight for some time on account of infirm health, came under my care in August, 1845, having been addressed to me by my friend Dr. Arnott. The following narrative of her case is abridged from a more detailed one, communicated to me by her husband, a solicitor:—Mrs. ——, who has been subject to constipation of the bowels for a great part of her life, became worse in this respect fifteen years ago, although she then resided in the country, and was an early riser, as well as in the habit of taking 'plenty of exercise' afoot and on horseback. At that time and subsequently, she had occasional 'attacks of piles,' but so slight as not to affect the general health. In 1835, three years after her marriage, this lady suffered much during several months from 'irritable bowels, accompanied with mucous discharges.' That complaint caused so much distress, and was so rebellious to medical treatment, that a change of residence from the North to the South of England was advised and carried into effect. It was subsequently, and after a severe attack of the dysenteric affection, that hæmorrhoids,

which had been for some time quiescent, became troublesome, and bleeding was for the first time observed. Now 'the slightest exercise' [to use the words of my informant] 'gave such great and lengthened pain, that she gradually gave it up entirely; and from that time till we consulted you, an interval of nearly nine years, she has been a constant sufferer, seldom walking further than from her bed-room into the drawing-room, excepting about two months annually, in the height of summer, when, singularly enough, we have remarked the complaint seemed to sleep. The hotter the weather, the more decided was the improvement; and during this annual short period of apparent convalescence, she has generally been able to walk about a little in the garden, but always sank again into the same state of suffering.' I learned, upon inquiry, that some members of this lady's family were subject, more or less, to hæmorrhoids, and among them her father; but he had another and more serious disease in the same part, namely, carcinoma.

When I first saw Mrs. ——, she was pale, emaciated, and languid. She was evidently much depressed by long illness and losses of blood. After the use of an aperient there was considerable protrusion of the rectum, and several hæmorrhoids were brought into view. There was no evidence of pulmonary or other organic disease. Palliative treatment was evidently here out of the question. The descent of the bowel must be prevented,

and the bleeding vessels must be permanently closed.

After some preparation during a few days, ligatures were applied to some of the hæmorrhoids, previously brought fully within reach after the free action of aperient medicine. In the subsequent progress of the case an abscess of small size formed at one side between the anus and the tuberosity of the ischium. Even with some retardation of her recovery, caused by this accident, the patient left town within three weeks after the operation.

I had an account from Mr. B., the lady's husband, about a month afterwards, stating that, amid the great improvement which resulted from the operation, some uneasiness was experienced about the lower end of the rectum. This inconvenience was speedily relieved by the application of a few leeches, and the use of the enema.

In the spring of the following year (March, 1846), my usual correspondent gave me a most favourable statement of his wife's health, adding, that she had taken out-door exercise during the whole winter, and that 'she can walk, three, four, or five miles daily.' The continued use of the enema and an aperient pill were, however, still required. It may be added further, as indicating the completeness of this lady's recovery, that in the same year (1846), her father (whose case will be noticed in another lecture) mentioned to me that she had lately become a mother for the second time, her former child being

then twelve or thirteen years old. In the past year (1853), moreover, I was informed by Mr. B. (he himself being now the patient), that his wife and the child born since the operation were in sound health.

Yet another case,—one in which the chief phenomenon was the sudden and rapid loss of blood,—before I enter upon the comments which the facts narrated suggest.

Bleeding at Intervals for Sixteen Years, and in latter part of Period very profuse. — Recovery. — Strong Health reported Six Months after Treatment.

Case 7.—George Chyramski [Hospital Case-book 17], aged 27, was brought into the hospital, blanched from loss of blood, in November, 1849. He is a native of Poland, but has been resident in London during twelve years. Is by occupation a hawker, and leads therefore a vagrant life. His father, who is still living, aged about 66, is subject to bleeding from the bowels, but not to any large amount. His mother is a healthy person. Chyramski has habitually had constipated bowels, and he is on this account obliged to use aperient medicine continually. Has had no other disease of importance than that for which he has been taken into the hospital.

When he was about ten or twelve years of age, this person first observed, after a long walk, some bleeding from the bowels. The loss of blood was then but

slight. Since that time bleeding has commonly returned at intervals varying between one month and three or four months. At an early period it only accompanied the expulsion of the fæces. But ever since the discharge of blood first took place, he has not considered himself quite rid of the liability to it. The longest intermission was ten months.

The descent of the bowel first occurred about four years ago, and from that period the bleeding has not been absent for more than a month at a time, its recurrence varying from intervals of four or five days to as many weeks. It has often been sudden and profuse, and has come on, too, the patient states, when there was neither straining nor protrusion of the piles, even while he was walking in the streets.

Upon his admission into the hospital, the countenance of this person was heavy, pale, bloodless; the eye-lids puffy; the lips blanched; the tongue pale, semi-translucent. The skin generally presented the same pallor and waxiness of appearance. The pulse was quick, weak, and jerking. Venous murmurs were audible in the neck. The lungs were found to be sound. The liver not enlarged; but a degree of tenderness was felt on pressure being made over this organ. Urine was healthy.

For relief of the immediately urgent symptoms, he was kept in bed, placed upon full diet, and took gallic acid, and sulphuric acid with cinchona, as well as a few doses of opium. In ten days, so great was

the improvement, that the patient insisted upon leaving the hospital, on account of some urgent business, promising, however, to return speedily for the purpose of being relieved of the source of the repeated bleedings. Accordingly, in the following month, he was re-admitted, but not before the hæmorrhage had recurred. Two days previous to his return he had been attacked in the same way, and he lost so much blood, that, upon admission to the hospital, he was anæmic as before. In a week, with treatment similar to that used on the former occasion, his condition was greatly amended, and I then considered him in a state favourable for the operation. The hæmorrhoids still descended with every evacuation of the bowels; but there was no loss of blood since the second coming to the hospital, till the morning of the operation, and then it ceased after the protruded part had been replaced.

The protruded hæmorrhoidal mass, when forced down for the operation, was large, and upon one side was as thick as a pullet's egg. Florid blood was projected from three round openings; the jets being continuous and each as large as a thick pin, blood escaped very freely. Three ligatures were passed. After the operation, laudanum was twice given during the evening. The progress of the case was rapid, and in every way favourable.

In about six months afterwards, this person called upon me for a purpose not connected with his

health. He was so robust, and looked altogether so healthy, that I did not recognise him till he had brought the facts connected with his case to my recollection. He had had no hæmorrhage since the operation; and he felt in better health than during several previous years. Moreover, there was not then any uneasiness in the region of the liver.

The points which I propose to notice in connexion with the foregoing cases are these :—The nature of the hæmorrhoidal tumour; the probable cause of the disease; the circumstances which rendered an operation necessary; the object and plan of the operation.

Structure of Hæmorrhoids.—Before proceeding to comment upon the details of the foregoing cases, I propose to lay before you some account of what a hæmorrhoid is—a matter upon which some diversity of statement will be found among surgical writers. The subject will be the better understood if the natural disposition of the blood-vessels of the rectum be first examined. This, moreover, will have its use hereafter in other parts of our inquiries; and it is the more necessary we should enter upon the investigation, inasmuch as there is not, so far as I know, an adequate account of the arrangement of the vessels in the intestine itself to be met with in books of anatomy or surgery.

The rectum is largely supplied with blood. The vessels as they are seen on its outer side are large, and they send branches at intervals through the muscular coat, which ramify between it and the mucous membrane. Independently of their position as regards the coats of the bowel, the arrangement is not the same throughout the rectum. Over the greater part the arteries and veins, taking both systems of vessels as following the same course, penetrate the muscular coat at short intervals, and at once divide into small branches, which hold a transverse direction, and form a net-work by their communications with the subdivisions of other similar vessels (plate 1, *b*). Towards the lower end of the bowel, for the length of about five inches, the arrangement is very different. Here the vessels have considerable length, and their direction is longitudinal. Penetrating at different heights, they are directed in parallel lines towards the end of the gut. In their progress downwards they communicate with one another at intervals, and they are still more freely connected near the orifice of the bowel. In this place the arteries all join by transverse branches of good size (plate 1, *a*). The veins form loops, and inosculate with equal freedom (plates 2 and 4).

The alteration of the veins from which the hæmorrhoidal tumour results, takes place in the loops, which they form inferiorly. As would be expected, the change is progressive. At an early

stage, dilatation occurs, which in one part is gradual —fusiform (plate 2). In another it is abrupt, starting suddenly out from the end of the loop into a rounded pouch. A degree of elongation of the looped part accompanies these changes; so that the vessel is lowered beyond its natural level (plate 2). During these alterations, the dilated vein still circulates fluid blood. In a more advanced stage, the dilatations are still further enlarged, and they are found to contain clotted blood, or fibrinous matter. From the aggregation of veins thus dilated in different ways and in different degrees, loaded also with blood or one of its elements more or less solidified, the hæmorrhoidal tumour is formed. The rounded masses which fringe the end of the rectum in plates 3 and 4 were soft and pulpy, and they appeared on section to be no more than coagulated blood, which, however, did not escape, and did not admit of being turned out of the general investment, as it would be if the whole were blood. When ravelled out as far as could be done, and inspected with a lens, the swellings were recognised as consisting of veins looped and dilated in the manner before mentioned. They were also found to be an extension of the veins above them, which were themselves enlarged, tortuous, and thickened throughout (plate 4).*

Causes of Hæmorrhoids.—Dilatation of some of the

* I acknowledge with pleasure the assistance received from my friend, Professor Ellis, in making the preparations upon which these observations have been founded.

terminal loops of the veins is so common—it is found on dissection where there is no indication of hæmorrhoidal disease, and in a degree too even at early periods of life—that I am disposed to believe we must look for an explanation of its frequency in the physical condition of the veins themselves. The circumstances which seem likely to exercise an influence in this way are the following:—The dependent position of the veins and the weight of the column of blood, which in consequence of the want of valves in these vessels reaches from the liver or the heart uninterruptedly: the large comparative size of the vessels at the lower end of the rectum, and of their terminal loops: and the probable action of the circular muscular fibres of the bowel on these. Respecting these circumstances, I would add that the influence of a dependent position is shown by the frequent occurrence of a varicose state of the veins in the lower limb, while the same disease is seldom met with elsewhere; and as it is evident that the sphincters aggravate the disease when hæmorrhoids are actually formed, so I believe it to be highly probable that these muscles have an effect in the same direction when the dilatation and elongation of the terminal veins is once begun, and especially during the act of defæcation. But while the facts adverted to may be supposed to give a tendency to disease in the veins, we have to inquire into the circumstances which call it into activity.

Sedentary habits, it has been shown in the former

lecture, promote the hæmorrhoidal disease, yet it is remarkable, that in not one of the persons whose sufferings are above recorded, do the habits appear to have been of this kind, and there was no view to that point in the selection of their cases. Inasmuch, however, as a sluggishness of the bowels existed in all, and as this distressing inconvenience usually attends upon the disease, it is well to inquire whether that condition should be considered the cause of the hæmorrhoid, or what the nature of the connexion between the two may be. And first, was the hæmorrhoidal disease induced by the mechanical pressure of fæcal matter upon the veins in the abdomen? It is certain that pressure upon the trunk of a vein, by obstructing or retarding the flow of blood, will induce dilatation in the extreme venous radicles. Yet it seems to me, that the fact of the mechanical impediment is too lightly assumed in the case before us, and for this reason among others, that there is a want here of a common effect of obstructed venous circulation, namely, the infiltration of the tissues with serum—œdema. Should, however, the existence of this form of mechanical obstruction to the flow of the blood be properly questioned, or should it be even altogether discarded, the connexion plainly existing between constipation and the hæmorrhoids still admits of a reasonable explanation by reference to the probable state of the portal circulation, and to the process of defæcation. For when the alvine evacuations are slow, it is probable that

the secretion of bile is not duly performed, and that the portal circulation is at the same time inactive. But inactivity in this (latter) would operate upon, or would include, the veins of the rectum. Again, the process of defæcation is something more than the removal of the 'débris' of the food and of the secretions from the glands accessory to the alimentary canal. For, during the progress of the excrementitious matter along the intestine, a serous secretion is going on from the large and numerous vessels of this, and if the evacuation of the bowel be slowly performed, the secretion from its surface is in the same proportion slow, and the converse. To the want, then, of a due amount of the proper secretions in the liver and in the intestinal canal, may the turgescence of the veins of the rectum be probably owing. In this mode of viewing the subject, the inactivity in the formation of bile might be regarded as giving rise at the same time to the sluggishness of the bowels and to the hæmorrhoidal disease. Bear well in mind, however, that this reasoning is not to be regarded as a statement of ascertained facts. I offer it only as a more or less reasonable conjecture, which, till we find a juster one, may serve the purpose at least of weaving the facts together. But, whatever be the true theory of the causation of hæmorrhoids, or the nature of the connexion between that disease and inaction of the bowels,—whether the one really induce the other, or both acknowledge the same cause,—the fact

still remains for our practical guidance, that while the sluggishness of the bowels aggravates, their free action tends to relieve the hæmorrhoidal malady.

While the effect of inactivity in the natural evacuations upon actually existing hæmorrhoids is thus fully recognised, it must not be overlooked that in a large number of persons constipation exists without any apparent enlargement of the veins of the rectum, —at least any diseased enlargement. Of this every surgeon's experience will supply him with examples. I have known persons whose statements respecting the infrequency of their evacuations were almost marvellous, and yet they were free from any appearance of piles. With such facts before us the conclusion seems unavoidable that, whatever be the immediate or exciting cause of the disease, a certain constitution of the vessels giving a tendency to morbid action,—an idiosyncracy, as it is called, must exist where the vascular disease of the rectum arises. It is only in this way that, in the present state of our knowledge, we seek to account for the existence of several other diseases,—a varicose state of the veins of the leg or of the testis, for instance, in a person otherwise, to all seeming, in vigorous health,—the tendency to the development of diseased action in the veins being in these several instances promoted, as heretofore mentioned, by the position—the dependent position, that is to say—of the vessels. It serves to strengthen this view of the subject, that

an hereditary tendency to the complaint is often traceable. Several members of the family of one of the patients whose history I have read to you were affected with hæmorrhoids, and the father of another had long been subject to the same disease from which the son began to suffer at the age of eleven or twelve,—an unusually early age for the manifestation of hæmorrhoidal disease.

Before we part from the inquiry into the circumstances which favour the production of the hæmorrhoidal condition of the blood-vessels,—although, as we have seen, a certain sluggishness in the action of the bowels is a condition which most frequently accompanies the disease,—it should be stated that some of the largest hæmorrhoidal tumours I have had occasion to treat occurred in persons who had suffered from diarrhœa. The patients I allude to had lived in warm climates.

The after-history of the cases in reference to the question that we are now engaged with is not immaterial. Two of them (cases 4 and 6) have found it necessary to continue the use of aperient medicine, although wholly free from the local malady; one (case 5) has been restored to health in all respects. It would seem, indeed, as if the usually imputed cause and effect had changed places in this person, for the constipation ceased upon the removal of the hæmorrhoids.

In the next place we shall proceed to consider the

circumstances which render the resort to an operation necessary, as well as the immediate object to be attained in performing it. In the former lecture, the morbid state of the vessels of the rectum was found to be part of a general ailment, associated with indications of vascular turgescence elsewhere, and subsiding with the more general congestion. This seems to be the usual, though not invariable course, at the first invasion of the disease. But, in the cases above cited, the hæmorrhoidal affection had grown into a substantive malady, and was to be regarded as in itself the ailment to be remedied. It was not associated in any of these patients with a discoverable organic change elsewhere; and there was, therefore, no objection to the application of a remedy on that score. The removal of the complaint was rendered necessary in the first of the cases (4), not by the mere presence of the hæmorrhoids, but by the inconvenience, and even pain—the 'misery,' to use the patient's own expression—arising out of their constant displacement from very slight causes during a series of years. The hæmorrhoids descend with the mucous membrane, which in this place is but loosely connected with the subjacent or superjacent structure, and not only is the tumour formed by the dilated vessels and the blood contained within them, a source of much discomfort, but, if the part be not speedily replaced, the sphincter, thrown by the presence of the swelling into spasmodic contraction, produces a strangulating effect upon the vessels, and

hence arise increased turgescence, inflammatory action and pain.

The object to be accomplished for the cure of such a case is to bring about adhesion between the mucous membrane and the other coats of the bowel, so as to prevent the prolapsus. The adhesive process required to attain this end may be excited by the removal either of some of the hæmorrhoids or of a portion of the skin and mucous membrane at the margin of the anus. Of such an operation the effect is here, as elsewhere, the effusion of lymph, the formation of a cicatrix, and, as a consequence of that process, the agglutination of the parts together. But as regards the two methods of proceeding, I prefer the removal of the hæmorrhoid, because it is not only more direct, but, as I believe, more certain also, the diseased part, the source of the evil, being put out of the way. I have no fear of any unfavourable result, provided the precautions to be hereafter mentioned are observed.

Turning now to the other cases, you will find that, besides the distress produced by prolapsus, there were in them losses of blood likewise. One (case 5) had been suffering from pain and from debility, occasioned by frequent bleeding during six years continually; another (case 6) had been, from the same causes, during nearly nine years, and for ten months in each of those years, confined to her room, completely prostrated; while in the last of the cases the hæmorrhage was so profuse as to imperil life by the

mere loss of blood. These cases, their histories being continued over a series of years after the treatment, prove that the stoppage of long-continued and profuse discharges of blood is not attended, in persons otherwise healthy, with any evil consequence to diminish the large benefit that results from it. It may be added, that all the experience I have had has confirmed me as to the general soundness of that conclusion. Upon this subject, the hæmorrhage, considering its gravity, I shall offer some further observations before proceeding to describe the operation.

The discharge of blood is a frequent accompaniment of hæmorrhoids. In the greater number of the examples of this complication that come before us, the quantity is but inconsiderable; and when it is so, especially where the occasional and slight hæmorrhage attends upon some general constitutional ailment or organic disease, it is not to be arrested permanently without careful consideration of all the circumstances of the individual case. The escape of the blood usually occurs when the bowels act. At this period the hæmorrhoids are forced below the sphincter, and the hæmorrhage lasts during the protrusion, or, what is commonly the same thing, during the efforts of evacuation. In the last of our cases, the loss of blood occurred also at other times, —when there was no protrusion; in fact, while the person was walking in the streets. But in this respect, as well as in the amount of blood lost, this was an extreme case. These circumstances are not

without their practical indications. Thus, the time for the evacuation of the bowels must be as brief as possible; constipation is to be obviated; and the protruded part is to be speedily replaced. Moreover, it is important that the surgeon should investigate for himself the amount of the hæmorrhage. I have found by examination the loss of blood to have occurred at a single time to the extent of half a pint, when the patient was not aware of more than a little oozing. For the arrest of this hæmorrhage, how far may local astringents be relied on? To this question, my answer is, that while I cannot aver that they are altogether to be disregarded, I must add that, in the circumstances before us, I have but little reliance on the efficacy of such applications. It is not often that we have occasion to observe the actual escape of the blood from hæmorrhoids. Still I have had in several cases the opportunity of doing this, and in every instance I found that the blood issued from one or more small but distinct openings. Of the bleeding, in the last of the cases above cited (7), it is mentioned that florid blood was projected from three round openings in continuous jets. Bleeding in any other form has not fallen under my observation. I have not seen anything that could be termed an exudation from a general surface. Now, judging by what we witness in other parts, it seems probable that styptics, if directly applied to the bleeding orifice, would have some influence in restraining the hæmorrhage in the cases before us; but the diffi-

culty is to make the application directly to the part. In order that it shall with certainty reach the one or two bleeding points in a cavity of no small dimensions, the injection must be used in considerable quantity. If, however, the quantity should be large, it will bring on the 'nisus' for evacuation, which ought by all means to be avoided. Again, although some astringents taken into the stomach have, in hæmorrhage elsewhere, considerable influence, they have but little if any beneficial effect in the bleeding which attends upon hæmorrhoidal disease. The patient Chyramski took gallic acid for some time, but apparently without any good result. Indeed, the influence of the forcing efforts of defæcation upon the venous circulation, the great distension of the vessels when protruded, and the constriction of the sphincter, are likely to render the use of all such remedies nugatory. On the whole, therefore, I rely mainly for the arrest of the hæmorrhage, on the replacement of the vascular growth within the sphincter, and the maintenance of the horizontal position of the body; but if the loss of blood be considerable or continued, the operation for affording permanent relief must be performed. The process by which it has been already stated the prolapsus is prevented, is sufficient for the cure of the hæmorrhagic tendency likewise. The plan of operating is therefore the same, only that the direct action upon the hæmorrhoids is even more necessary here than where the prolapsus is not attended with bleeding.

Now, as regards the operation:—in order that the healing process should go on prosperously afterwards, it is necessary, in this as in all other cases in which any delay is admissible, that the patient's health should be well looked to before the operation is proceeded with. It was on this principle that one of the patients, who, you remember, was faint and exsanguined when brought to the hospital, was allowed to continue for a time under care before the operation was undertaken; while, inasmuch as there was nothing in the state of the health of the other cases to forbid the operation, the free action of an aperient, with the regulation of diet for a couple of days, was all the preparation that was thought necessary.

The ligature used is of thick silk, and it is carried double through the middle of the hæmorrhoid, or of the portion of this to be acted upon. Each part of the ligature is to be tied at the side, and as firmly as possible, so as to destroy the vitality of the included hæmorrhoid. The extent of the mass to be included I am in the habit of regulating with a tenaculum, committed to the hand of an assistant after its point has been inserted. The same purpose may be attained by means of a hair-lip pin, passed transversely, and made to penetrate at both sides where the ligatures are to lie. When the purpose has been served, the pin, or tenaculum, is of course withdrawn. Caution is necessary, that none of the skin be included in the ligature; and, should any happen

to be within the space to be acted on, it must be divided in the track of the ligature before this is tied. It is thus that pain during the operation and suffering afterwards are to be avoided. The gentleman whose case is first cited (case 4) stated that he felt no pain during the operation or after it,—only a degree of uneasiness; and he was able to employ himself in reading immediately. The patient Youle (case 5), however, felt some pain, because a small point of the skin happened to be included in one of the ligatures.

For the proper performance of the operation, it is best that the bowel should be prolapsed, and this will be effected after the use of an aperient or an enema, or even in some instances without these, by the efforts of the patient. After this operation, as after most others, it is well to administer an opiate if the patient should feel uneasiness. The action of the bowels is not to be speedily looked for; but, should they not act spontaneously in three or four days, I direct an enema or a mild aperient to be administered. There is occasionally a difficulty in evacuating the urine. Hot fomentations and a dose of opium will expedite the removal of this distressing complication. Very rarely indeed is it necessary to introduce a catheter.

The sequel of the cases cited at the commencement of this lecture may be considered the type of the result of the operation in others. An unfavourable, or even unsatisfactory termination is of

extremely rare occurrence. Sir B. Brodie stated, in 1835, that he had then seen but two examples.* Mr. Copeland mentions one,† and it has fallen to my lot to witness a single instance also. In judging of such results, it must be remembered, that there is scarcely an operation, be it ever so trivial, that may not, in extraordinary circumstances, prove fatal, just as it needs no long acquaintance with the practice of a hospital, to have occasion to observe serious consequences, and even death, to follow from a slight accidental wound or abrasion; nevertheless, one has little apprehension about such an operation or injury. It is right, however, to use experience—our own, and that of others,—so as to reduce the possibility of such an event to the lowest degree attainable. Now, in the case which I had occasion to examine 'post-mortem,' there was a strong yellow tinge of the cellular membrane of the pelvis around the rectum, and the lower part of the bowel was in a sloughy state. There had been, before the operation, repeated losses of blood to a considerable amount, and the person was in a feeble state, though able to go abroad and attend to his occupations. Several double ligatures (five, I believe) had been applied to the hæmorrhoids, which were entirely of the internal kind. A similar condition (of diffused cellular inflammation) is mentioned by Sir B. Brodie, as

* 'Medical Gazette,' vol. xv., p. 844.

† 'Observations on the principal diseases of the Rectum and Anus.' Third Edition, p. 143.

present in a body which he examined under the same circumstances. With my present experience, my conclusion is, that it is important, in all cases, to avoid applying ligatures in large number, and that this rule is especially important where the patient is in impaired health, or debilitated by loss of blood. I am disposed to limit myself to the application of two or three double ligatures, though I have, in several cases, used a greater number with the best result. The smaller number will, in most cases, be sufficient to prevent the prolapsus afterwards, and the hæmorrhage as well; but even should it not have this effect altogether, it is better to have to return to the application of a ligature or two more, than to do too much even once in a life. I have acted in several cases upon this principle, where the state of the patient's health, or the size of the hæmorrhoidal mass, seemed to require such caution—Case 15.

A few words respecting excision as applied to internal hæmorrhoids—a method of treatment which has been largely practised—before I proceed to another part of our subject: Personally, I have no experience of this operation; but I will briefly refer to what has occurred respecting it in the practice of two or three very eminent surgeons. You will find in the lectures of Sir A. Cooper an account of two cases in which death resulted from the effect of the bleeding that supervened upon the operation;* and

* Sir A. Cooper says, respecting one of the cases (a nobleman

Sir B. Brodie states that he very nearly lost two patients under the same circumstances.* Both these surgeons abandoned the practice afterwards. Baron Dupuytren, who invariably removed the hæmorrhoids with the scissors, and always continued that plan of operating, states that, after the operation, it is necessary to leave an assistant with the patient, in order that he may be ready to arrest the hæmorrhage. He used the heated iron to effect that object, and so common was hæmorrhage in his practice, that he had special instruments constructed for the purpose —'cautère en haricot : cautère en roseau.' Indeed, this surgeon seems to have been finally disposed to advise that the cautery should be used in every case at once after the excision of the tumour, as he had found that hæmorrhage requiring these means for its arrest had occurred in a large proportion of the cases

æt. 74), 'As I was anxious about this patient, I did not immediately quit the room after the operation, but stood chatting with him for a short time, when he said, 'I believe you must quit the room, for I must have a motion.' I went out of the room, and upon returning shortly after, I found him trying to get into bed ; and upon looking in the vessel, I perceived a considerable quantity of blood in it. In a few minutes after, he said he must have another motion, got out of bed, and again discharged a considerable quantity of blood. This he did four different times ; one of the hæmorrhoidal arteries in the centre of one of the piles which had been removed was divided ; and as I was determined he should not die of hæmorrhage, I said I must secure the vessel which bled, and with a speculum ani I opened the rectum sufficiently to see the blood-vessel, took it up with a tenaculum, and put a ligature around it.' The patient however became gradually worse, and died in four days.—'Lectures,' &c., 12mo., 3rd Edit., p. 422.

* 'Medical Gazette,' vol. xv., p. 843.

operated on.* There is, it must be remembered, this bad peculiarity in the hæmorrhage occurring in such cases, namely, that as the blood is prevented

* The evidence respecting the bleeding which follows the operation by excision to be drawn from the lectures of M. Dupuytren, who was and continued to be a strenuous advocate of that plan, is as follows: Seven cases are cited in illustration of the operation. The actual cautery was used immediately after the excision in two; and among the remaining five profuse hæmorrhage took place in all but one. Now, turning to the extent of the bleeding: In one case (No. 2), that of a rich banker (un banquier immensément riche), M. Dupuytren remained with his patient after the operation. In a quarter of an hour after it, he saw him become pale and fall into a state of extreme prostration, a cold sweat over his body, with a sense of heat gradually rising higher in the abdomen. The surgeon directed his patient to make an effort to expel the contents of the bowel. A 'great quantity' of semi-fluid blood was forced out. The bleeding was arrested with a pig's bladder inserted in the bowel, and stuffed with charpie. There was great difficulty in maintaining this plug in its place, on account of the involuntary expulsive efforts it induced. It is added to the report that 'this hæmorrhage weakened the patient much, and would without doubt have become fatal (funeste) if the efforts to arrest it had not been promptly successful. Afterwards the recovery was speedy.'

The banker had a brother in Berlin suffering from the same complaint, and M. Dupuytren, who was applied to for advice, sent instructions for the operation, with a caution respecting hæmorrhage. The caution was neglected by the surgeon who operated. Bleeding came on. The surgeon was not to be found, and the patient was only saved by the presence of mind of another brother of the patient, who, having been present at the first operation, used the bladder and charpie plug as he had seen it done in Paris. 'But (says the report) the loss of blood was so great, that the patient was a long time before he recovered.'

The history of one of our countrymen is too much in point to be omitted. It runs thus:—'Mr. Ex * * *, a Scotchman, a cavalry officer in the service of his Britannic Majesty, unmarried, aged 40 years, of sanguine temperament, experienced during three years acute suffering on account of internal hæmorrhoidal tumours, which escaped with the slightest effort for the evacuation of the bowels. As the fatigues of his profession augmented the inconvenience, he came to Paris to consult

from escaping by the sphincter ani, the surgeon or his assistant, be he ever so watchful, does not become aware that hæmorrhage is going on till the patient either is rendered faint by the loss of blood, or has a desire to evacuate on account of the accumulation of this in the rectum. Sir A. Cooper, apprehensive in one case (see ante, page 47, note) lest his patient should bleed, remained by him and applied a ligature to the bleeding vessel, but not, for the reason just mentioned, till after a large quantity

M. Dupuytren.' Three small hæmorrhoids were found and excised, and the bleeding was so slight at the time that M. Dupuytren considered the use of the cautery to be unnecessary. Yet 'five hours after (continues the report) the characteristic symptoms of hæmorrhage of the rectum were manifested: anxiety, shiverings, desire to vomit, cold sweat, convulsive contraction of the limbs, inexpressible anguish, vertigo, syncope. The patient evacuated a large quantity of blood.' An enema of cold water was administered, and there was now a cessation of the distressing symptoms. 'But, after the lapse of an hour, they reappeared with even more intensity than on the first occasion; they produced complete prostration of the patient's moral firmness (démoralisation complète), so that he asked for a notary to make his will, resolved to await death, which he believed to be imminent, rather than permit the cauterisation, the appliances for which he saw in readiness. The Doctors Caillard and Marx, however, took on themselves the responsibility of using force, in order to save the patient in spite of himself, and succeeded, with the aid of a fenestrated speculum, in applying the cautery. This arrested the bleeding, and was followed by dysuria, a usual result of the application. The inconvenience soon subsided, and the patient did well.'

Of another of M. Dupuytren's patients (No. 4) it is said that when the proposal of the operation was made to him he shuddered, because he had heard of 'some unfortunate cases' which had then recently occurred in the practice of other surgeons. 'Quelques cas malheureux,' in this passage, doubtless means some cases attended with a fatal result. —'Leçons orales de Clinique Chirurgicale,' tome i., p. 357 et seq.

of blood had been lost, from the effect of which the patient died. Yet in that case there was only one bleeding vessel—'One of the hæmorrhoidal arteries in the centre of one of the piles which had been removed was divided.' Doubtless the large size of the arteries at the lower end of the bowel, and their free inosculation, will account for the large and continued bleeding. See plates 1 and 2. The foregoing statement will explain, without further remark, why I have not had recourse to the operation in question.

Other means have been used for the removal of hæmorrhoids, for instance, nitric acid and the actual cautery. The acid is an uncertain application. But I have found it useful in certain kinds of nævus; and it may be employed with advantage for piles, when for any reason the effectual remedy is not resorted to. As regards the actual cautery, whenever it is desired to apply it, the wire heated by a galvanic battery is the most convenient mode of effecting the object. From the cautery thus applied I have derived signal advantage in some forms of nævus, and I look upon it as a useful resource in the treatment of hæmorrhoidal tumours, where it is desirable to do a little at a time, and where objection may be raised to the use of the ligature, as advised in the foregoing lectures.*

* An account of the apparatus will be found in a paper 'On the Employment of the Heat of Electricity in Practical Surgery,' by John Marshall, F.R.C.S., in the 'Medico-Chirurgical Transactions,' vol. xxxiv.

EXTERNAL HÆMORRHOIDS: HÆMORRHOIDAL EXCRESCENCE.

The cases which have hitherto been before us have all been examples of internal hæmorrhoids, that is to say, of vascular tumours covered with the mucous membrane, and concealed from view till they are forced below the sphincter ani. We shall now turn to the external variety, in which the tumour is situate below the sphincter, visible upon the surface without any change in position, and covered with skin. It is only to the peculiarities of condition and treatment, that it is necessary to refer in this place; for the observations already made under the head of internal hæmorrhoids, upon the causes of the disease, and the constitutional state which induces or accompanies it, as well as upon the general management, may be taken to apply equally to the external variety.

Many persons, when not quite well in health or after some irregularity, whether excess in living or a too sedentary life, are annoyed from time to time, and for a day or two, with an itching and a little redness, or with a slightly swollen and tender point near the anus; and this commonly disappears spontaneously, leaving no trace behind.

Other forms of the complaint, instead of being noticed in the abstract, may be illustrated by the brief mention of actual cases.

Case 8.—A professional gentleman called upon

me to be relieved from the annoyance occasioned by a single small lump, which was about the size of a marble, and was very tender and hard. After drawing a small bistoury across the tumour, I turned out a clot of blood, and the patient went away to his avocations.

Case 9.—In another instance of a swelling of the same kind in a female, there was some bleeding after I had laid it open. A large vein was observable, creeping beneath the mucous membrane, down to this pile; but the bleeding, which seemed arterial, was easily restrained without a ligature.—In these cases, especially the latter, much pain was felt in the evacuation from the bowels, and there was entire inability of sitting down in the ordinary way.

Case 10.—A lady, who had suffered for several years, at intervals, from internal hæmorrhoids and losses of blood, was relieved by the application of ligatures. But, at a later period, a small swelling formed externally, and continued for some time to be acutely painful. Upon examination, I found that pus issued from the upper part of the little swelling when this was pressed upon; and from the situation of the opening, and also the dependent position of the sac, suppuration and suffering would have continued for a long space of time. I laid it completely open, and prevented the adhesion of the edges of the incision. The swelling soon disappeared altogether. —This was an example of abscess formed in the centre of the hæmorrhoid.

There was but little constitutional disturbance in any of the preceding cases. That which follows exemplifies an acute attack of external hæmorrhoids.

Case 11.—A gentleman of eminence in the scientific world, having been engaged for some months in preparing a work for the press, and therefore much confined to his desk, was attacked, almost without warning, with pain and swelling near the anus. At each side there were prominent swellings, upon which the skin was red, and immediately beneath it there was an appearance of some serous effusion. The pain was extreme, accompanied with restlessness and want of sleep. The tongue was loaded; the appetite much impaired; pulse but little accelerated. The sitting posture, in such a case, is quite out of the question. The patient remained in bed. Leeches, followed by fomentation, and the application of spongio-piline squeezed from hot water, were used. The medical treatment was of the kind mentioned in the first lecture as suitable to internal hæmorrhoids. In a few days nothing remained of the painful swellings, but a little enlargement and thickening of some of the folds of skin that belong to that part. In this case there was seen, what often occurs in this disease, namely, a rapid, almost sudden, change from suffering to the entire absence of this. The patient to-day is in bed, or on a couch, with a painful tumour, and to-morrow, it may be, is abroad, and quite well.

Case 12.—An unmarried lady, generally in good

health, had suffered for some years with internal and external hæmorrhoids; and the former were, some time back, removed by ligature. Considerable pain, attended by inability to sit or walk (especially to sit), having been present for several months, she desired to be relieved from this annoyance. Under the skin three indurated masses are found at the margin of the anus, two being partly blended together. From time to time these swellings took on inflammatory action, and then there was much distress. On this account the patient is the more anxious for permanent relief. After some preparation, by the action of aperients, the tumours were removed. Held up with a pair of 'fenestrated' forceps, the fold of skin and the contained tumour were excised with a pair of scissors curved on the side. As one point bled smartly, a pin was passed obliquely through it, and a ligature was turned over the end of the pin. An opiate was given soon after. The pin was withdrawn on the following day. There was œdema in the integuments around, but this soon subsided, and the recovery went on rapidly.

Case 13.—W. Galliome, aged 42, [Hospital Male Case-book, No. 18], a person reported to be suffering from phthisis, and from repeated losses of blood from the bowel as well as from the lungs, was brought into the surgeon's wards, in November 1850, in consequence of profuse bleeding from the rectum, by which he was reduced to a state of extreme depression. This case will be noticed only as far

as is necessary for our present purpose. I found blood issuing in a narrow continuous jet from a round opening in the skin over a hæmorrhoidal tumour situate at one side of the anus. Chloroform being administered, a double ligature was passed, the skin was divided quite through at each side, and the ends of the string were then tied in the groove made through the integument. A draught, containing thirty minims of tinct. opii, was given in the evening. On the following day, the patient complained that the urine passed slowly, and this inconvenience continued in a degree for a couple of days. The ligature came away between the fourth and fifth days after its application. The patient subsequently had a slight attack of diarrhœa, which was arrested with the decoctum hæmatoxyli and tincture of kino, together with injections of starch and opium. In ten days he left the hospital cured as far as the hæmorrhoidal complaint was concerned. The bleeding did not return. It may be observed, that I do not look upon the diarrhœa as connected with the application of the ligature in this case. It came on about five days after the operation, and the patient had been long suffering from an organic disease, of which the bowel complaint is not an unfrequent accompaniment.

From these brief sketches of cases illustrative of various phases of the disease, I proceed to consider the subject generally; and it is to be understood that I shall dwell only, as before stated, upon

points which are special or peculiar to external hæmorrhoids.

The external hæmorrhoids vary much in size, from a swelling little more than discernible to a tumour the size of an egg. When of some magnitude they are a source of much inconvenience on account of interfering with the sitting posture; and when in any degree inflamed they are inconvenient for the same reason, and, moreover, they are then productive of much pain, especially during the evacuation of the bowel. In the inflamed state the skin is at the same time affected, and every disease accompanied with excited action in this part causes much suffering, owing no doubt to its organisation. The distress, too, is augmented by the spasmodic action of the sphincter, which we shall find usually accompanying irritation or inflammation in its neighbourhood. Their position and connection with the skin cause the external hæmorrhoid to be the more painful; but the tendency to bleeding which we have found connected with the internal piles does not belong to the external variety. This is accounted for by the structure, which is very different. For while the true hæmorrhoid (the internal one) is formed of largely dilated vessels with but a covering of mucous membrane so thin that they seem bare, the external pile commonly contains little of the dilated vein, at the same time that the investing skin is thick. Large vascular growths, resembling in all respects the internal hæmorrhoid, are indeed now

and then found externally—permanently below the sphincter, but then they are continued more or less from within See plates 3 and 4.

The acute inflammation of external hæmorrhoids is treated as would be the same condition in other parts. To what I have said in a former lecture respecting the management, general and local, of hæmorrhoids in a state of inflammation, I would here only add, that as the suffering is so much greater than the same amount of inflammation would excite elsewhere, (except probably when the eye and ear are concerned,) you ought to be especially careful in superintending the arrangement of the proper appliances. All the applications,—the poultice, the sponge, the spongio-piline, and so forth, with their proper application and support, small matters as these may be regarded—are as much the care of the surgeon as the steps of a 'great surgical operation.' So indeed is everything which tends to abridge the suffering of a patient. I have found a strong solution of nitrate of silver in a few cases, without any other remedy, abridge very much the attack of external hæmorrhoids. The solution used was in the proportion of twenty grains and upwards to the ounce.—Meanwhile as the inflammation subsides, the swelling shrinks, and there are, after a first attack, little other remains of the previous swelling than the fold of skin,—of, it may be, larger size than natural (case 11); but by repeated attacks the twisted vessels are thickened and at the same time united into a

lump by new deposit, and thus a permanent enlargement is formed.

When a clot of blood is contained in a large dilated vein, the termination will be the same as that described in the last observation. The blood is gradually altered, becomes adherent to the vessel; this is obliterated, and the whole shrinks into a small mass of little more than cellular structure. The cure is expedited in this case by laying the lump open. I do not, however, advise that the person should, even after this trifling operation, be allowed to walk about, as in case 8. Hæmorrhage to some extent may occur (case 9); not indeed so as to be a source of uneasiness, but still enough to give the appearance of bleeding in the dress of the patient, or to cause inconvenience, even faintness in a delicate person.

The little abscess which forms in connexion with external hæmorrhoids, will sometimes continue a long time unhealed if left to itself. It is to be freely laid open (case 10), or the little swelling, when it is the only disease, may be removed altogether with a pair of scissors. It must be remembered, that any meddling with even such small swellings as have been here adverted to, is attended with much pain; and anything that is to be done, must be done with full preparation against failure from the restlessness of the patient. The use of chloroform may be required, even for these small operations, in some anxious persons.

The removal of the hæmorrhoids is rendered necessary by the inconvenience of the tumour, or by the frequent recurrence of increased swelling. As regards the manner of effecting the removal, I would say that it is not allowable in any case to include in a ligature the external hæmorrhoid together with the skin covering it. Such an operation would give rise to extreme suffering, and might even compromise the life of the patient. Excision is here to be resorted to. The plan of the operation is as follows:— While the patient lies on one side upon the edge of a bed or couch, and an assistant separates the nates, the swelling, with its cutaneous covering, is raised with a pair of suitable forceps or a vulsellum, and the whole is removed in a longitudinal fold, with a pair of firm scissors, curved on the side and blunt at the end. The hæmorrhage which usually accompanies the operation may be arrested in the usual manner, viz., by tying the little arteries that bleed; but bleeding is liable to come on in an hour or two, or even later, and the application of a ligature at this time is productive of great pain. The influence of the chloroform has then passed off; moreover, it is in every way unpleasant, especially in private practice, or in the case of female patients, to have to return to an operation. It is on these accounts that I have sought to avoid the need of any further process, by passing at once a pin through the bleeding part, and over the ends of this a few turns of ligature with sufficient tightness to control

hæmorrhage—using, in fact, 'a point of interrupted suture.' A scrap of lint is inserted in the wound, if it be desired to prevent immediate union. The pin is withdrawn in twenty-four or forty-eight hours. When first led to have recourse to this expedient by the necessities of a particular case, in which I performed the operation with but little assistance,—a lady of highly nervous temperament being the patient,—I passed the hare-lip pin in common use, but since then I have had one constructed for the purpose. This is short, blunt at both ends, has a movable point, like the hare-lip pin formerly used, and a hole or eye at one end, into which a thread is inserted to assist the removal of the pin. The object is, that the pin should not prick the integument in the neighbourhood—gathered in, as all is here with the sphincter—and that it may be withdrawn, even though hidden when the parts are swollen with the œdema which follows the operation. To facilitate its removal, the pin is to be inserted as much in a longitudinal direction as possible.

The account of the operation would not be complete without a word of caution as to the extent of skin that is removed, for if it should be too freely taken away, the orifice of the bowel may be narrowed so as to produce perhaps even serious inconvenience to the patient afterwards. For this reason I have, in more than one instance, where the tumours were unusually large, turned back the skin before proceeding to the extirpation. The evil that might

arise from inattention to this point of practice will be shown in the following case :—

Case 14.—Mr. C., aged about 55 years, complains of uneasiness about the right iliac part of the belly—in the cœcum probably; and when his bowels act, he has a feeling of much discomfort under the arch of the pubes, towards the right side. This last distress is in a measure relieved by pressure with the finger upon the surface, the force being directed to the opposite, the left, side. The pressure seems, the patient says, to help the last part of the evacuation. There is no tumour or swelling of any kind where the patient points to as the seat of his distress.

The only unnatural appearance was at the anus, which seemed much contracted. The skin around it was smooth, without a trace of a fold, and was marked with the scars of former operations. Upon inquiry, I now learned that the patient had been operated on some years before, for piles, by two surgeons, the last operation consisting in the removal of folds of the skin. I also learned, that when the fæcal matter is formed or consistent, and still more when it is hard, the evacuation occasions severe suffering, with a 'splitting pain.' All the distress, it seemed to me, was but the result of the narrowness and unyielding state of the orifice of the bowel, occasioned by an ill-judged operation.* I

* See 'Practical Observations upon Certain Diseases of the Anus and Rectum,' by Abraham Colles, in 'The Dublin Hospital Reports,' vol.

saw the gentleman referred to in the foregoing narrative, by the desire of Sir John Forbes, for whose advice he came from a distant part of the country.

In the works of some writers of authority will be found strong objections to the use of the ligature in the treatment of hæmorrhoids, and in other works objections equally strong are raised against excision. The observations I have made will lead you to the conclusion, that my own objection to each of these operations is of the strongest kind, unless when used in the form of the disease to which it is adapted,—excision being inapplicable to the internal hæmorrhoid, and the ligature to the external. But, if means should be taken to prevent the evils of these operations respectively, namely, hæmorrhage in the former, and inclusion of the skin in the latter, then the objection falls to the ground. Accordingly, the internal hæmorrhoid may with safety be excised—snipped away with a pair of scissors, if the pin I have before described be inserted and a thread drawn over it, so as to guard against bleeding. The pin is to be drawn away in two or three days, and the string inserted in the eye renders the removal an easy process. The same end may be attained

v.; and 'Lectures on the Theory and Practice of Surgery,' by the same surgeon, vol. ii., p. 114. The editor of the latter work (Mr. McCoy) makes this statement in a note :—'I saw a gentleman who had been operated on four years before by an eminent surgeon, and so small and rigid had the opening of the anus become, that no solid larger than a garden pea could be passed from the bowels,' &c.

by various other means. So likewise the external hæmorrhoid may be tied without ill consequence, provided the skin be completely divided in the track of the ligature before this is drawn tight in the manner exemplified in the case of Galliome (13) above narrated, or if the skin be turned back before the ligature is applied.

Hæmorrhoids complicated with other Disease.— So far the hæmorrhoid has been considered as existing without any other serious ailment, except such as might be regarded as a consequence or an ordinary accompaniment of the disease of the rectum. We shall close this part of our subject with an inquiry into the proper mode of proceeding when disease affecting some important organ exists at the same time with that in the bowel. From the oldest times it has been a common belief, if not a medical dogma, that losses of blood under the circumstances just indicated are salutary; that, at all events, they prevent matters from getting worse as regards the disorders we suppose to exist elsewhere, and therefore ought not to be arrested. For all such general impressions or traditions in the Profession, one is inclined to believe that there must be some reasonable foundation; and yet we ought not, in a matter of such great importance, to be guided merely by impressions, however generally they may be entertained. Our conclusions ought to be drawn from facts—from cases carefully observed and put together. I appre-

hend that the opinion entertained respecting the healthful influence of fluxes of blood arose and continued to be strongly held when the abstraction of blood was largely used as a remedy for actual disease. I well remember that, when I began to climb the first rounds of the professional ladder, no small portion of my time was engaged in bleeding—venesection or phlebotomy, and arteriotomy, as the operations were called; and few patients having any appearance of excited action about them escaped without being 'let blood.' But the practice of the Profession, in this regard, has been much changed; and now a Dresser is seldom called upon to use his lancet, except perhaps for the purpose of opening an abscess. Leeches, indeed, are applied, and the Cupper is in requisition at times, but the lancet is comparatively little resorted to. May it not be, then, that notions which have come down to us from a period when the large abstraction of blood as a remedy for disease was often considered necessary, should require revision when the opinion and practice in that respect have been much modified? I would not imply that the prevailing impression respecting discharges of blood should, because of the change in opinion adverted to, be necessarily erroneous; I would merely suggest, that the question we are engaged in discussing must be decided, irrespectively of any general notion, by reference to observation only. It should, moreover, not be forgotten, that in order to make examples of disease available for

our purpose, much caution is required in removing all sources of error as well as insufficiency from the examination of them.

Take a case:—I had known a young lady from the earliest age, who, when she grew up, became much distressed with constipation and bleeding piles. She often had at the same time a loud barking cough. Her chest was rather narrow, but there was no loss of flesh, and she possessed a good deal of strength and vigour. Distressed, however, by the frequent recurrence of bleeding, and pain as well, she applied to an eminent surgeon in a metropolitan city, and the hæmorrhoids were removed. Afterwards the loud cough continued and increased, and in three years from the cessation of the bleeding from the rectum, this lady died of phthisis. These are facts, and all that are known to me, as bearing upon the history of the illness. With only that statement of the facts, however, we cannot draw any material inference from the case. All the circumstances intermediate to the surgeon's operation and the active development of phthisis are wanting. Moreover, we do not know from any well-observed examples that the loss of blood will prevent the active growth of tubercular disease, any more than it would cure it, or influence it beneficially in any stage of its progress. In short, cases, to be of service for our present object, must have been well known before the arrest of the hæmorrhoidal discharge, and must be under observation and control

during some considerable time afterwards. But to obtain so full a history is a matter of difficulty. In a hospital, the operation is performed, and the patient is commonly not seen again; or, if he should again come under the notice of the surgeon, it is probably after exposure to circumstances which in themselves are sufficient to produce disease, apart from all reference to the previous hæmorrhoidal complaint. And so may it be in a degree as regards private patients. From this it follows that the means of arriving at an assured conclusion upon the subject before us in the experience of any one person must be scanty; but every contribution towards it has its value.

So much being premised, I will now read brief abstracts of two cases which I saw in consultation with my distinguished friend, Dr. Arnott, some years ago. They were both under his observation and professional direction before that time, and they have been so since then. To him I owe an account of their condition since the hæmorrhoidal disease was removed, as well as previously to the operation.

Internal Hæmorrhoids attended with Losses of Blood and Pain.—Frequent Hepatic Derangement.—Jaundice. Erysipelas. — Operation. — Report of Health Ten Years after Cure of Hæmorrhoids.

Case 15.—Mrs. ——, a lady of florid complexion, now aged about 65, who had been suffering for some years with frequent attacks of internal hæmorrhoids,

accompanied with prolapsus and bleeding, came under my observation in the summer of 1844, when this note was made of her case.—The return of the prolapsed bowel is always difficult, and attended with much suffering, and the patient is confined to her bed for a considerable period during the hæmorrhoidal attacks.

This lady is very subject to a sense of fulness and giddiness of the head, and this distress subsides when the hæmorrhoidal discharge comes on. She has likewise often had erysipelas of the head and face. The hepatic function, too, has been frequently deranged; and more than once there has been complete jaundice. Such was the history of the case, not at a remote period, but immediately before the treatment of the hæmorrhoidal disease.

Upon examination of the rectum after it had been prolapsed by the action of an aperient, several hæmorrhoids were found projecting from it. As it was evident to Dr. Arnott and myself, that, unless this malady was relieved, the patient must remain liable to very frequent returns of suffering, which lately had continued for long periods, and to all the depression of health that must result from this as well as from losses of blood, we decided upon removing the hæmorrhoids, in so far as might be necessary to prevent prolapsus of the mucous membrane. But it was thought prudent to proceed cautiously with the operation, in consideration of the disordered state of the patient's system. Accord-

ingly, on the 13th of June, two double ligatures were applied; and in a month after, (11th July,) as, though a decided improvement had taken place, there was still some remains of prolapsus, two more were used.

Since that time the patient has had, at intervals, attacks of her old head-complaint, and the application of a few leeches has, on more than one occasion, formed part of the treatment resorted to by her physician. Under his advice, she has abstained wholly from the use of ordinary stimuli. The relief afforded by the treatment of the hæmorrhoids has been complete, in so far as this malady in itself is concerned, and, what is very material, the stoppage of the discharges of blood has not been attended with any injurious effect to countervail that benefit. After the lapse of nearly eleven years from the operation, the lady is now in comparatively good health.

Ovarian Tumour.—Hæmorrhoids, with Losses of Blood, cured.—No increase of Ovarian Disease.—Report Six Years after Treatment.

Case 16.—A lady, now arrived at about the age of 50 years, had long been annoyed with hæmorrhoids, accompanied with painful prolapsus and discharges of blood; and though a person of very strong mind, she had become in consequence of the disease pale, nervous, and anxious. There was also an ovarian tumour, which, when I saw the patient, (April, 1847,)

was as large as an ostrich's egg. The latter disease had been then in existence for ten years. For a period of between two and three years the tumour had been steadily increasing in size; but Dr. Arnott had caused pressure to be applied over it with a very ingeniously contrived apparatus, and the arrest of its growth, which took place before my assistance was required, was believed by the patient to have been the effect of the treatment.

The hæmorrhoids were both within and without the sphincter. It was from those in the former position that the bleeding proceeded. Three ligatures were applied, with the effect of preventing the prolapsus and hæmorrhage. Subsequently, the inconvenience arising from the subcutaneous tumours being such as to prevent the patient from sitting with comfort, and still more from riding in her carriage without much distress, even though she had been provided with pillows and other suitable additions to the carriage cushion, three external hæmorrhoids were excised, and pins with the ligatures were at once applied, in the places of two of these, in which there was active bleeding from small arteries. The pins were removed on the following day. This, I may add, was the first case in which I resorted to the use of this expedient for preventing hæmorrhage. This lady has, since the operation, been wholly free from bleeding, and she has not suffered any inconvenience in the situation of the hæmorrhoids, except once, and to a

slight amount, a couple of years ago. Notwithstanding the presence of the ovarian tumour, and the effect it might be supposed calculated to exercise in causing a return of the hæmorrhoidal complaint, her health is now good. Moreover, the ovarian disease has not increased in size since the removal of the hæmorrhoids and therewith the entire suppression of the discharge of blood; the re-application of the apparatus for making pressure over it has therefore not been necessary. It should be stated, that the menstrual function still continues in a healthy state.

Comments on the foregoing cases are scarcely necessary, and I will only shortly say respecting the management of cases in any degree similar, that if the hæmorrhoidal complaint be in itself a source of distress, and the bleeding take place in an amount to impair health, the resort to treatment with a view to its removal is required. Afterwards, the patient ought to be well watched, the diet regulated, stimulants in a great measure if not wholly disallowed; and if any inflammatory disease should arise, the removal of blood will probably be requisite in circumstances in which otherwise it would not be thought necessary.

But a good deal of care and discrimination is occasionally necessary to determine upon the fitness of a hæmorrhoidal patient for the operation; for though with such cases as those last narrated, Nos. 15 and 16,

in which, while there was a good deal of disordered health and even some organic disease, yet no really vital organ was materially affected, the operation with proper precautions will be successful, a like success is not to be looked for where vital organs, as the lungs or kidneys for instance, are seriously diseased. Indeed it may be laid down as a precept generally applicable that where there is serious organic disease affecting a vital organ, no surgical interference is admissible except for the purpose of warding off imminent danger, such as that which may arise from hæmorrhage—see the case 13 above cited. I will now read an outline of a case in which no doubt could exist as to the propriety of declining an operation when the person came under my observation, and very probably long before then.

Case 17.—John Armstrong, aged 49, [Hospital Male Case-book, No. 20,] sought admission to the hospital to be relieved of hæmorrhoids; but his countenance at the time bore strongly the appearance of serious disease, and with but very little inquiry it became evident that the hæmorrhoidal affection, though extensive and long-continued, was of comparatively minor importance. The patient had suffered from piles for nineteen years. In 1843 an operation (excision according to the patient's statement) was performed; yet since that time a prolapsus of the hæmorrhoids has constantly taken place with every fæcal evacuation. Moreover, when the bowels acted in the morning, the protrusion of the hæmo-

rrhoids commonly occurred during the day also, and blood was lost, the patient says, so as often to run into his shoes while he was engaged in his ordinary occupations; but if the bowels were relieved in the evening he was 'comfortable' on the following day—free from prolapsus or bleeding. More or less blood was habitually lost with the fæcal evacuations. On one occasion, about a month before his coming into the hospital, the patient was unable to replace the piles. They continued unreduced for upwards of twenty-four hours, during which time the suffering is said to have been intense. The reduction was at length effected after the free application of cold water to the part.

On examination into the condition of this person, a large mass of hæmorrhoids was found within the grasp of the sphincter and beyond it (plate 3); but there was other and much more serious disease than that. There was considerable enlargement of the liver, attended with a good deal of tenderness to pressure beneath the ribs. In the urine albumen was ascertained to be present in very abundant quantity, and under the microscope blood and pus were also discovered. Its specific gravity was 1014.

After he had been in the hospital a few days, the patient having allowed the hæmorrhoidal tumour to remain protruded for a couple of hours, there was a large loss of blood. Previously low and weak, he was now much more so. He was also troubled more than once with retention of urine. After these

events the countenance became heavy and dull; delirium came on; the tongue was brown and crisp; the respiration hurried; and the patient sank.

In the examination of the body, the heart was found largely hypertrophied; and it was covered over with a layer of soft lymph—recent pericarditis. The right lung was gorged with blood at its posterior part and in the lower lobe. In these parts too the pulmonary substance was easily broken down, and it sank in water. The left lung was tolerably healthy. The liver was considerably above the natural size and weight. It was smooth on the surface, but pale and much indurated. The whole surface of the kidneys was irregular—devoid of the natural smoothness. When the capsules had been removed both were found to consist of two different structures: one being dark, blood-red—the renal substance; the other, a series of small, round whitish bodies. There were also several cysts containing a yellowish serous fluid. Upon section of the organ the cortical part was seen to be thinned all over, insomuch that upon some of the tubular masses scarcely any cortex was perceptible. Under the microscope (this part of the examination was made by Dr. Jenner), a large amount of fibrous structure was noticed in the intertubular spaces; but there was no fat, and the epithelium was in a natural condition. Fibrous deposit was likewise found to be abundant in the liver.

The hæmorrhoidal disease was extensive. It

consisted of a series of masses or lobes of dark venous appearance, protruding externally and partly encircled by the sphincter (plate 3). The hæmorrhoidal veins were considerably enlarged, tortuous, and thickened (plate 4).

The tumours at the anus, though in the position of the external hæmorrhoid, had the appearance and structure of internal hæmorrhoids. (See plates 3 & 4.)

In this case the principal disease was that of the kidneys. To this, the affection of the lung and that of the pericardium were consecutive, and they came on only when the patient was sinking,—in the last few days of his life.

ABSCESS.

THERE is a proneness to the occurrence of phlegmonous inflammation about the lower end of the rectum, and it is probably attributable in a great measure to the structure of the part, that is to say, to the looseness of the skin, the large size of the veins, and the liability of these to be influenced by irregularity in the functions of the alimentary canal. The abscesses, as would be expected, vary much in their characters—their size, the depth they reach, and the degree of their connexion with the intestine. A few examples will sufficiently exhibit the leading characters of different kinds of these formations, and will serve as the text for the general consideration of the subject. I shall first cite examples of the small rounded abscesses often met with under the loose folds of skin encircling the anus.

Case 18.—Mr. E., a very anxious person, so morbidly excitable that he became faint when touched even with a probe, perceived, after having been troubled with an uneasy sensation about the part, a swelling close to the orifice of the bowel at its back part. This had discharged its contents, and there remained, when I saw Mr. E., a sinus about an inch and a half in length extending towards the coccyx.

Under the use of an astringent lotion and compression, the sinus was healed in a week.

Case 19.—A gentleman, aged 36, had been teased for a couple of days with pain and heat arising from a small round swelling in one of the folds of integument near the anus. With the point of a lancet I laid the little lump open; a drop of pus escaped, and in a couple of days, without further treatment than the application of a hot sponge, all inconvenience was at an end.

Such cases, surgically considered, are trifling; but they cause a degree of suffering very much disproportioned to their size, as do indeed almost all ailments affecting the same parts; and this probably is owing to the action of the sphincter on the inflamed and very sensitive skin. I shall now read an abstract of a case in which the purulent formation was of much greater extent,—passing by, for the present, those abscesses which end in fistula.

Large Abscess at side of the Rectum.—Pus discharged emitting Fæcal Odour.

Case 20.—E. T., aged 20, [Hospital Female Case-book, No. 10,] a domestic servant, was admitted on account of much pain and swelling in the neighbourhood of the rectum, and entire inability to attend to her occupations. She is one of a large family, the several members of which, including her father and mother, are in good health, and have been so habitually.

About twelve months before she came to the hospital this patient fell upon the nates, and felt much discomfort in the part for some weeks afterwards. Three weeks ago she, for the first time, felt pain during the action of the bowels, but, she states, there was no enlargement till within the last week. On admission, a swelling was found over the ischio-rectal region of the left side. There had been severe rigors. There was now a good deal of fever —hot skin, flushed face, furred tongue, with restlessness and entire loss of appetite.

A free incision made into the swelling gave issue to a large quantity of pus. The odour of the pus was strongly fæcal. A probe passed lightly upwards reached a considerable depth, at least as far as the end of the ischio-rectal fossa. There was clearly no communication with the interior of the bowel, and there was no evidence of diseased bone. Afterwards the progress towards recovery was rapid. The fever subsided quickly, and the purulent discharge decreased in quantity from day to day. In a fortnight from the date of her admission the patient left the hospital. There was at this period still a slight oozing from the opening of the abscess. Soon after, on account of some irregularity—want of complete rest and proper management in other respects—the abscess was reproduced and the patient was re-admitted to the hospital. Now matters again went on prosperously and quickly, and the cure was complete in a few days.

Though abscess rarely arises from a wound in the neighbourhood of the rectum, it may be well that I should not omit to mention here a case of this kind which was in the hospital a short time ago.

Separation of the Rectum from its Posterior and Lateral Connexions, and Laceration of its Muscular Fibres from Contused Wound.—Abscess.—Partial Peritonitis.—Recovery.

Case 21.—J. B., a healthy person, aged 29, [Hospital Male Case-book, No. 17,] a bricklayer, was admitted on account of a wound sustained by falling from a height to a projection from the balustrade of an unfinished house. An irregular lacerated wound about two inches long was found behind the anus. The skin was bruised and somewhat discoloured with ecchymosis. With the finger passed through the wound the coccyx was found broken and parted from the sacrum, but still firmly held in its place by its strong muscular and ligamentous connexions. The sciatic ligaments were felt in good part bare. The finger passed easily up its whole length behind and at the sides of the rectum; and the muscular coat of the bowel was found to be torn across for more than an inch. There was considerable oozing of blood, which, however, ceased after a slip of lint had been passed up into the wound.

On the second day afterwards erysipelatous inflammation arose, but not with any severity; and the attack soon subsided. Subsequently acute pain,

increased by pressure, was felt in the left iliac fossa. It was accompanied with active constitutional symptoms, intense heat of skin, and a rapid wiry pulse. This complication, which was believed to be inflammation of a portion of the peritoneum, was relieved by the use of leeches and warm applications.

The discharge from the wound, which for some time was thin and sanious, at length assumed a healthy puriform character. Small fragments of the coccygeal bones came away. The patient steadily recovered.

The diminutive abscesses, of which cases 18 and 19 may be regarded as the types, require but little notice. They form in the subcutaneous cellular membrane, give a good deal of pain at first, and afterwards create annoyance by the discharge, which often continues a considerable time—indeed it may be until the surgeon interferes. They arise commonly without any very evident cause. The health is a little disordered. The bowels may be sluggish, but there is nothing remarkable or constant in this respect in different cases. Such formations have no necessary connexion with hæmorrhoids (cases 18 and 19); yet they are now and then traceable to this disease. An example will be found at page 53. The duration of even these abscesses is abridged by incision through them (case 19); for, when not inter-

fered with, the pus burrows more or less in the loose subcutaneous cellular tissue, and the skin being thinned and ulcerated, the cure is protracted. It not unfrequently happens, moreover, that the opening which forms spontaneously is so placed that the sac of the abscess is not emptied of its contents, and by this circumstance the healing process is retarded, if not hindered altogether from making progress.

Instead of being thus confined to the surface, a large number of the abscesses that are met with in the same situation penetrate more or less deeply, and are of much greater size than those we have just noticed. Some of these communicate with the interior of the rectum, close to its lower end; others extend upwards to a greater depth along the outer side of the bowel. The former commonly terminate in the production of fistula in ano, and will be reserved for consideration till we come to treat of that subject. The two conditions are in fact but different stages of the same complaint—the fistula being the more enduring one. The formation of the larger abscesses is usually accompanied with high symptomatic fever, and often with rigors (case 20). There is pain, sometimes severe pain, about the rectum, though there may be at the time but little or even no appearance of the nature of the complaint. Thus:—

Case 22.—A female patient, who was brought to the hospital a few years ago (1847), stated that, three days before, she had, while sitting at dinner and

without previous uneasiness, been suddenly seized with pain about the rectum, and a desire to pass an evacuation. The pain she described as being most intense. When she came to the hospital there was still severe pain in the same place, aggravated by standing or walking; and yet there was then no other external appearance of disease than a slight redness. Ultimately pus in considerable quantity was discharged at each side of the rectum. This was an extreme case as regards the amount of pain the patient suffered; and it is right to add that this was not a healthy person in other respects. There was evidence of a disease of the kidney—pyelitis. In most instances the patient speaks of 'dull aching' rather than of acute pain.

It occasionally happens that the abscess passes through its whole course without any outward indication of its presence. This is an instance.

Abscess opening into the bowel.—No appearance externally.

Case 23.—There came to me, at the hospital, very lately, a robust man who had been suffering for some time with uneasiness referred to one side of the anus. Externally there was nothing to account for the uneasy sensations he experienced; but within the rectum I found a prominence—an abscess which had burst into the bowel. It seemed to me to have been formed in great measure, not wholly, in the walls of the bowel.—It is, however, to be understood

that abscesses, when idiopathic, are but rarely discharged into the intestine. Ordinarily they make their way downwards to the skin near the anus; and their progress in that direction is favoured by the abundant loose cellular substance and fat occupying the ischio-rectal fossa.

The causes of phlegmonous inflammation near the rectum are very various. Some abscesses, especially those of small size, are often spontaneous—that is to say, they arise without any ascertainable exciting cause (cases 18, 19); and we may reasonably attribute the greater frequency of their occurrence in this than in other situations, to the peculiar organisation and function of this part of the bowel. As would be expected, external injury is occasionally the exciting cause, e. g., a fall upon the perineum (case 20), a wound (case 21), the injury caused by a foreign body which, after having passed along the alimentary canal, is arrested by the sphincter. Some such bodies have been found to give rise to abscesses by wounding the intestine though still remaining in its cavity, while others have passed through the gut and have been found in the abscess beyond.*—See further on the observations on foreign bodies.

When the management of an individual case is to be decided upon, it is material to remember that the

* Sir B. Brodie mentions a case of large abscess by the side of the rectum, attended with severe constitutional symptoms, in which, after having opened the abscess and let out a quantity of very putrid offensive matter, he found lying across it a fish-bone.—Med. Gazette, vol. xvii. p. 27.

phlegmonous inflammation very seldom subsides without the formation of pus; that, moreover, in consequence of the looseness of the tissue the abscess has a tendency to extend around the rectum; and that the examination of the surface does not always afford adequate evidence of the condition of things beneath, insomuch that there may be a considerable accumulation of pus without any marked external indication. The use of leeches or of other means of subduing inflammation is here attended with but little if any beneficial effect; and, as a result of these considerations, an opening becomes necessary at an early period in order to evacuate pus, which will in some cases be found only at a considerable depth.

It is undeniable that the abscesses under consideration will now and then, like those elsewhere, go on to a favourable termination without surgical interference. I have repeatedly seen examples of this; but, on the other hand, I have also seen instances in which much extension of the purulent deposit and a large separation of the rectum from its connexions would in all likelihood have been prevented if the purulent secretion had been earlier allowed a free exit. In all other respects, the abscess will be treated like those in other positions.

The matter evacuated sometimes has a very offensive smell. In case 20, it was exactly that of fæcal matter. Indeed some of the persons present when it was being discharged expected to see the

contents of the bowel escape with the pus; but there was absolutely none, nor was there any communication between the abscess and the interior of the intestine. How then is the phenomenon to be explained? I confess my belief that we have not yet arrived at what can be shown to be the true answer to this question; still there are several facts bearing upon the subject which are important in a practical point of view, even though the explanation of them may not as yet have been accurately ascertained. A distinction may, I believe, be made between the fœtid and the fæcal smell of the matter discharged from the abscesses in certain situations. The fœtid odour is sometimes very well marked in abscesses about the mouth or the fore part of the neck, although there is no communication with carious bone. It has been sought to account for the fœtor in such cases by assuming that atmospheric air penetrates the tissues from the neighbouring mucous membrane of the mouth, or pharynx, or wind-pipe, and that decomposition, which goes on in consequence in the abscess, occasions the peculiar odour. And this view of the subject is believed to be strengthened by the circumstance that the fœtor does not occur except in the neighbourhood of some part of the air passages. The fact is, however, that the access of air is not necessary for decomposition. Of the fæcal, as distinguished from the fœtid odour, the examples that I have witnessed hitherto occurred where the abscesses were situated close to some portion of the

large intestine. To the instance I have read to you (case 20), I may add a brief reference to another in which the abscess was in a different position.

Abscess in iliac region of Abdomen.—The Pus emitting fæcal smell.

Case 24.—Not long since a female, æt. 25, was brought into the hospital, a fortnight after accouchement, on account of a swelling in the right iliac region. The abscess (for such it proved to be) was opened, and the pus, which was healthy in appearance, gave out a decided fæcal smell. The patient got well rapidly.—I have from time to time had to treat several other examples of abscess, in which the pus had the same characteristic; and all that I have hitherto met with were in the neighbourhood of some part of the large intestine. It should be added, however, that the circumstances which gave rise to the phlegmonous inflammation of the abdominal wall in the several cases, as well as the extent of the purulent deposit, were very various.

To account for the peculiarity presented in such cases, it has been supposed that the gas of the large intestine permeates the tissue to the abscess and imbues the pus with its odour. If it were established beyond question that the fluid of the abscess acquires a fæcal (as distinguished from a fœtid) odour, and that this belongs only to purulent formations in the vicinity of the great intestine, the fact would afford presumptive evidence in favour of this mode of

explanation. The whole subject, however, seems to stand in need of elucidation. In a practical point of view, the most important consideration connected with it is that the peculiar odour, whether fæcal or fœtid, may be present in pus without betokening a communication with the interior of the bowel, or any connexion with diseased bone; that also the process of cure in such circumstances goes on just as favourably as if there were no such complication.

It is, as indeed might be anticipated, in persons of feeble health, and, above all, in those suffering from disease affecting vital organs, that abscesses in the neighbourhood of the rectum present most serious characters. An example or two will serve to illustrate this part of our subject.

Pelvic Abscess.—Fistulæ.—Recovery.

Case 25.—Mr. C., æt. 46, a small and very spare, yet active person, with dark hair and pale face, gives the following account of his previous health. About fifteen years ago he had a bad cough, and spat blood in streaks upon the expectorated matter during two or three years. Since then he has had no lung symptoms of any consequence. The patient states that, for the last four or five years, he has passed some matter from the rectum in the hot part of each summer; and this used to cause a chafing of the skin. Sometimes the discharge was thin, at other times more completely purulent, always staining his shirt, as pus would. During the whole of this time

there had not been a swelling or lump of any kind, or inconvenience except in summer, and then never more than to the extent just stated. In the summer of 1850, Mr. C. became enfeebled by the constancy of the discharge. In February of the following year, when I first saw him, there was a short fistula at the left side, opening at the same time through the skin and into the rectum. This was divided. While it was healing up, as there was still a degree of uneasiness, not to be accounted for by anything apparent in the track of the incision or elsewhere upon the surface, I made an examination of the interior of the rectum, and found, at the opposite side an inch and a half from its end, a depression of about the size of the top of the little finger. This hollow had at its upper edge a rigid feel, and it seemed as if a portion of the muscular coat of the bowel had been removed—punched out, so to say. In two days afterwards the little depression was occupied with a soft elevation, as if fluid had passed into it from without and was prevented from escaping into the bowel by a thin membrane—probably pus forcing in the mucous membrane. This condition was speedily followed by the formation of an abscess externally, close to the anus, upon the same, the right side. The abscess being laid open, a probe passed through it reached the breach in the intestine already mentioned; moreover, the instrument penetrated a cavity running for a considerable distance higher up along the outer side of the bowel. The sphincter and

integument were divided upwards to the circular opening in the bowel. Afterwards, for a considerable time, purulent matter of a diffluent kind continued to escape; and the patient had repeated attacks of rigors. This person seemed to derive advantage from cinchona and a mineral acid, but he was most benefited by a visit to the country. Finally, the discharge from the rectum gradually decreased, and he returned to his avocations in fair health in about six weeks from the time of the operation. Now, after the lapse of nearly four years, Mr. C—— is fully in his usual health.

Whatever may have been, in this instance, the local circumstances that determined the formation of pus in the pelvis, I would attribute much influence to the feeble condition of the general health. To it, with fair probability, may also be assigned the protracted continuance of the discharge, and the unhealthy character of the pus. And as the extension and persistence of the disease is here assignable to the constitutional state, so this must in the management of similar cases be carefully looked to. I have no doubt that in many instances in which pus continued to be formed in feeble persons after operations—amputation of the limbs, for example—I have derived advantage from the use of a mineral acid in combination with cinchona or quinine. The tendency to induce flatulency which acids appear to have, seems to be corrected by conjunction with a warm bitter such as infusion of orange-peel or of

cascarilla. The diet is of course to be a liberal one. In such cases the removal from the ordinary place of residence—from the town to the country—has a most salutary effect.

From this condition, *i.e.*, abscess in the pelvis in a person of weakly constitution, in which the patient may be led on, hesitating and relapsing, to recovery, we turn to one of a more serious kind.

Tubercular Disease of both Lungs.—Hæmorrhoids of long standing.—Large Abscess near the Rectum.

Case 26.—J. L., æt. 35, [Hospital Male Case-book, No. 18], is a tall and very thin person of sallow complexion, with black hair and deep dark tinge about the eyes. He habitually works at his business as a cook in a dark underground kitchen lighted even during the day with gas. His mother died at an early age; his father sank from the debility produced by bleeding piles. One of his brothers has suffered from the same complaint.

For eleven years the patient has gone through much illness and suffering, beginning with hæmorrhoids, which, for some years, descended with every evacuation of the bowels and bled sometimes (he states) to the extent of half a pint at a time. But this disease has not been troublesome for the last five years. Within the last few months diarrhœa came on, continuing several weeks, and followed by a harassing cough which still remains. There are,

besides, the certain local signs of advanced tubercular disease of the lungs.

The disease of the rectum from which the patient now suffers began two months before his admission to the hospital. At that time he became affected with an aching and a sense of bearing down, which are now constant, and are especially distressing when he stands or walks. Pus has lately passed with the evacuations. It is obvious, from these circumstances, that an abscess had formed and burst into the rectum. On examination, a hæmorrhoidal tumour of the size of a small walnut was found within the bowel, on the left side, and near it the sac of an abscess extending nearly to the coccyx, as well as towards the tuberosity of the ischium. The opening of the abscess was above the sphincter in the interior of the bowel. Short incisions or punctures were made to facilitate the escape of pus. The patient's health, however, became daily more and more depressed. Symptoms of the lung disease likewise became more decided. The purulent secretion extended to the sacrum, and outwards under the great gluteal muscle. The pus discharged was thin and sanious. Compresses to limit the extent of the purulent deposit, tonics and cod-liver oil were used, together with a liberal diet. But, as we expected from the outset, the patient gradually sank.

The result of the 'post-mortem' examination was briefly as follows:—Both pleuræ contained consi-

derable quantities of serous fluid. Both lungs were firmly adherent to the ribs at the upper part of the thorax; and they contained towards their apices numerous cavities, some of which were the size of a small orange. The rest of both the lungs was thickly strewed throughout with crude tubercular deposits, varying in size from that of a pea to a pin's head. The other viscera were healthy.

In the neighbourhood of the rectum there was an extensive suppurating surface, reaching backwards to the sacrum and coccyx,—the lower end of this latter bone being carious and loose,—reaching outwards too upon the left side beneath the gluteus maximus, behind the hip joint, and limited at the inner side by the levator ani and the sphincter.—This case illustrates the influence which disease affecting a vital organ exercises—an organ intimately connected with the formation of the blood, the medium through which the healing process is everywhere elaborated. Under such disease, the abscess is not limited by a distinct barrier of lymph-deposit, as it would be in the healthy body, and the process of reparation is extinct.

To such a case the common treatment by free incision is inapplicable, yet matter must not be left to accumulate. A convenient outlet is to be given, and a more healthy action must be sought for by stimulating applications, together with the support of the part by local pressure. The means to be used in the hope of bringing about a more

healthy condition of the system, merge in the general treatment of phthisis.

Before parting from the subject with which we have now been engaged, I would notice in a few words a form of abscess which is very unfrequently met with. Hitherto abscess has been spoken of as confined to the immediate neighbourhood of the rectum, or extending backwards to the coccyx and sacrum, or outwards to the buttock. Very rarely is there any connexion between purulent deposit in the neighbourhood of the urethra and of the rectum. Rarely does it extend from either of these localities to the other. Examples, however, do occasionally occur. This is one :—

Abscess of Perineum extended to the side of the Rectum.

Case 27.—In June, 1850, was admitted into the hospital, G. P., æt. 30, on account of continued pain in the perineum, accompanied with symptomatic fever. He has often had gonorrhœa; there is now a discharge from the urethra. In a few days after this patient's admission to the hospital retention of urine came on, and there was some difficulty in passing the catheter. A swelling became distinctly apparent in the perineum; a fulness was likewise manifest at one side of the anus. With the finger in the rectum, the left side of the bowel was found bulging inwards. A free incision in the perineum and extending into the ischio-rectal

fossa, gave issue to pus in good quantity. The case did well.

The abscess which forms in connexion with an inflamed urethra, or that occasioned by the escape of urine from the canal, is strictly limited behind and at the sides; and any increase, beyond the perineum, extends forwards to the scrotum. This is the rule; and the strict limitation in the directions adverted to, whereby the pus of a perineal abscess is hindered from extending to the rectum or to the inner side of the thigh on either side, is accounted for by the connexion of the superficial perineal fascia covering the abscess, behind with the deep fascia, and laterally with the rami of the ischium and the pubes. But the condition of things in the case just cited was an exception to this rule, for the perineal abscess passed backwards beyond the limits of the perineum, probably making its way through the superficial fascia.

FISTULA IN ANO.

The fistula is preceded by an abscess, which, having discharged its contents, closes up to a certain point, the unclosed remainder being the fistula. From the table before me, containing the leading particulars of all the cases of this disease that have been admitted into the wards in my charge during many years, I have selected a small number to illustrate the various forms of the fistula. And here let it be understood that every variety of this complaint is amply illustrated among the patients of a hospital, while the most numerous examples of some other maladies affecting the rectum and the aptest are met with among persons who are less laborious in their occupations and less frugal in their living. All our cases will here therefore be taken from the hospital case-books, and I will begin with examples of the simplest and commonest form of the complaint.

Case 28.—Samuel B., æt. 30, a draper's assistant, [Male Case-book, No. 5,] said to be temperate in his habits and generally in good health, has been subject to piles. Four months ago the patient felt near the anus a painful swelling, which soon burst. A purulent discharge has since continued.

A short fistula, the outer opening being close to the anus, was divided. The cure was complete in eleven days.

Case 29.—Charles T., æt. 29, [Male Case-book, No. 4,] is a coalheaver of robust conformation, but overworked lately. Bowels usually act with regularity. Upon being questioned, recollects that he fell some time ago, alighting in the sitting posture, but felt no inconvenience from the fall at the time. A month since, a hard swelling appeared at the side of the anus, and it was 'excessively painful' when he sat or stood up. The swelling however soon burst, and the patient was immediately relieved of all his suffering.

On examination, the opening of a fistula was found on the left side, and at the distance of an inch from the anus. From this point the probe was passed more than two inches before penetrating the opening in the mucous membrane of the bowel. The point of the instrument was found to move a good way laterally also.

The fistula and a sinus afterwards detected were divided, and the cure was effected in five weeks.

Case 30.—Joseph F., æt. 26, [Male Case-book, No. 7,] states himself to have been always in good health, except in so far as he has been affected by the present ailment.

Five years ago a swelling appeared which gave rise to much local distress, especially during the evacuation of the bowels. The abscess speedily

burst; and during the whole period which has since elapsed, there has been almost constantly a discharge from the same part. Within the last year, the discharge has been much more considerable than usual.

The fistula was found to be tortuous. An opening into the interior of the intestine was not discoverable.

The operation was performed by two incisions continuous one with the other, but accommodated to the different parts of the sinus. The patient left the hospital in a fortnight, the sore being then very nearly cicatrised.

Case 31.—Charles B., æt. 36 [Male Case-book, No. 11], a farm-labourer, is said to be commonly in good health. Nine months ago, an abscess which formed close to the rectum was opened by a surgeon. The stench from the discharge is said to have been 'overpowering.' The abscess did not close up, and when the bowels were in a relaxed state, fæcal matter passed through the fistula.

By an incision an inch and a quarter in length the fistula was completely laid open. The patient went home in eight days, the wound then healing fast.

Case 32.—Francis B., æt. 4 [Male Case-book, No. 11]. This is a robust-looking child, but there was, on its admission to the hospital, some tenderness to pressure over the abdomen, and the alvine evacuations were lumpy and whitish — chalky in appearance.

The orifice of a fistula was found one inch to the left of the anus. The probe passed to the depth of two inches to reach the interior of the bowel.

After some preliminary treatment to improve the general health, the fistula was divided, and the parents were allowed to take the child home while the sore was slowly but steadily healing up.

The foregoing abstracts of cases may serve to illustrate the principal circumstances which characterise the most usual form of fistula in ano—if indeed it is allowable to apply this designation to a disease in which there are two distinct conditions or stages, the fistula being the secondary or resulting condition. At first a small hard tumour makes its appearance at the verge of the anus. This increases in size, and at length, if not interfered with by the surgeon, bursts and discharges pus. Such an abscess will in one case then heal up —but this is a rare result; in another case, and such is the course in a very large majority, the opening remains, and a narrow canal leading into or towards the interior of the rectum continues unclosed. This is the fistula. The opening by which the abscess is emptied is commonly through the skin, but occasionally through the lining membrane of the gut; or it would seem, from what is found in examining some fistulæ, that two openings are

formed, one through each of these structures at the same time. Hence certain differences in fistulæ, which will presently come under notice.

The tumour or abscess, which constitutes the starting-point of the complaint, is attended with much pain—doubtless in consequence of the large supply of nerves the skin receives in this situation, and the action of the sphincter muscle upon the inflamed skin. The pain, and for an obvious reason, is augmented when the patient sits or walks, and during the evacuation of the bowels. But the subsidence of the swelling by the escape of its purulent contents is attended with instant relief of the previous suffering—cases 29, 34, 36.

The sinus will in some cases remain almost unchanged, discharging more or less of a thin pus, until the operation to afford permanent relief is performed. Among the cases narrated it will be seen that the fistula had been open a considerable time before application was made at the hospital—a month—four months—nine months—five years, and yet there was no approach to a cure in any. In other cases the abscess forms anew;—of the recurrence examples will be given hereafter.

But why is it that after an abscess in the neighbourhood of the anus a fistulous sore usually remains, and permanently unless the proper remedy be applied, while in most other parts the abscess, after its contents have been discharged, closes spontaneously? In seeking to reply to this question

it must be borne in mind that there is in certain other situations a tendency, though in a less degree, to the persistence of a sinus after purulent formations, for instance, in the inguinal region. In that place the continuance of the fistula is owing to the movement of the integument—its separation from the subjacent structures—when the thigh is bent. So, too, it probably is owing to the looseness of the skin, together with the movements of the sphincter, and the connexion of the fistula with the muscle that the process of closure is arrested. When fully formed the fistula is bounded for the most part by a firm fibrinous deposit, and the extent to which the induration reaches varies very much in different cases.

Commonly the fistula terminates upon the surface by an opening—the remains of that which gave exit to the purulent contents of the abscess; and the edges of the orifice being usually thickened and prominent, it is for the most part easily discovered. Not unfrequently however I have met with cases in which there was merely a diminutive breach in the integument without any surrounding elevation. In such case the discovery of the sinus is not very readily made. The issue of a little fluid, however, and a point of hardness felt beneath the skin will indicate the position of the aperture. The fistula has often likewise an opening into the interior of the bowel, but this is in my experience more frequently wanting than the external one. The mucous lining

of the intestine is consolidated with the rest of the fistula in some cases, and then the probe readily enters the opening in it. But it often happens that though the end of the instrument is felt through the mucous membrane, an opening is not discoverable —cases 30, 33. This may occur even while a hole is actually present, because of its distance from the rest of the fistulous canal, added to the loose connexion of the lining membrane of the bowel.

The fistula does not occupy a uniform position in different cases. I have repeatedly found it immediately under the integument in its whole length; but I believe that it most frequently passes through the fibres of the sphincter. I have been led to this conclusion as to the most frequent position of the sinus by the course the probe takes in its passage into the bowel and by the thickness of substance felt between the instrument and the finger. Moreover, the size of the hollow found after the fistula has been cured by incision, seems to me to prove that more than mere integument had been divided in the operation.

Fistulæ vary remarkably in the distance to which they reach within the intestine. In general, the depth of the internal aperture from the margin of the anus averages from half an inch to an inch and a quarter, but I have occasionally found it exceed that distance, and when this is the case the greater part of the fistula is between the muscular and the mucous coats of the bowel. On the other hand, more than

one case has come under my notice in which the end of the fistula was merely within the grasp of the external sphincter, so that it was brought into view by a little management.* A seeming depth may arise from the probe being pushed upwards between the mucous and the muscular tunics of the bowel in consequence of the loose connexion between them.

I now proceed to illustrate some of the complications of the fistula in ano.

* M. Ribes investigated the state of the fistula in eighty cases which he found among a large number of bodies. The result of his observation as regards the internal opening was, that in most instances it was situated immediately above the place where the lining membrane of the rectum joins the skin, and never more than five or six lines beyond that point.—'Mémoires et Observations d'Anatomie,' &c., tome ii., p. 37. Paris. 1841.

M. Velpeau states that he examined thirty cases of fistula in ano, found either in the dead body or in the living person, with reference to the same point. His results were as follows:—In four instances the inner opening of the fistula was an inch and a half, two inches, two inches and a half from the anus, and consequently a little above the external sphincter. In a fifth the fistula opened at more than three inches, and it was difficult to reach the aperture with the finger; in this instance the fistula for a great part of this length ran between the mucous membrane and the muscular coat of the intestine. The remaining fistulæ ended almost at the anus, or at the distance of five, six, ten, or twelve lines higher up; there were three which had their openings outside the 'villous surface' of the anus, and two only which were nearer to the sphincter than the integuments. M. Velpeau adds that more recent observation had confirmed these results. He sums up by saying that some fistulæ open upon the skin at the entrance of the anus, that the greater number have their orifice between the two sphincters, and that others are higher.—'Dict. de Médecine,' tome iii., and 'Leçons Orales,' &c., tome iii. p. 351.

Abscesses repeatedly formed during Three Years, and at both sides of the Rectum.—Fistula.—Operation.—Cure.

Case 33.—John M., aged 23, a shoe-maker, of slender conformation, has been subject, as he states, to coughs and colds, but never hitherto to such extent as to render it necessary that he should be confined to bed.

Three years ago, at the right side of the anus, was formed a swelling which attained 'the size of an egg,' according to the patient's own statement. In about four days it burst, and in a week after was completely healed up. There was entire freedom from all signs of this disease for about twelve months; but at the expiration of that time the patient felt great pain in the same part, so that he could not walk or sit down. About the second day of this condition another abscess began to form. This, when it had attained the size of a walnut, likewise burst and discharged matter for about a fortnight, when it also was healed. Subsequently, after the lapse of about four months from the closure of the second abscess, a tumour began to be perceptible on the left (the opposite) side of the anus. As before, this new formation became the source of much pain. In four or five days it gave exit to a thick fœtid pus. Now, the abscess did not close like those which preceded it, but has continued to

discharge puriform matter ever since it burst, a period of eleven months.

The fistula was found with the ordinary appearance at the left side of the anus. It did not penetrate the mucous membrane of the bowel,—at least an internal opening was not discovered after a diligent search. In twelve days after the operation the patient went home with the sore very nearly healed up.

Repeated Abscesses. — External Hæmorrhoids. — Fistula with branching Sinuses.—Disease continuous for Seven Years.—Operation.—Recovery.

Case 34.—Samuel B., aged 74, a law clerk, has been suffering for several years from a discharge of matter from the anus, and more or less distress. Seven years ago, having sat for some time upon a wet plank, he felt pain about the anus, and an abscess formed. The bursting of the abscess, which soon occurred, was attended with instant relief to his sufferings. Subsequently two other abscesses arose at considerable intervals of time, and they followed the same course as their predecessor. During the whole time there has been a continued discharge from the sinuses. From this cause S. B. has lost strength very much, and he suffers great local inconvenience. There is no disease affecting any vital organ; and the patient states that he is a

member of a family remarkable for good health and longevity.

In August, 1850, the condition of the local malady was as follows:—Around the anus were several folds of integument of considerable size, and more or less consolidated—the remains of what had been twelve months previously, when the patient was first seen, masses of livid hæmorrhoids. At the distance of an inch from the anus were the openings of three sinuses. One of these was found to pass deeply inwards to the bowel, and the other two ran into it. When all were laid open there was one communication with the rectum, branching externally into three parts.

After the operation everything went on favourably; and at a subsequent period four of the loose folds of integument were removed.

The healing process advanced progressively, though slowly, under the influence of a liberal diet, quinine with a mineral acid, and a visit to the country; the local malady being the while treated with a mild astringent lotion. Very lately (Feb. 1853), at a distance of upwards of two years from the operation, this person came to me in excellent health—the strength restored, the spirits good. The seat of the former complaint was in an equally satisfactory state. Upon one side of the anus I found the usual groove caused by the division of the fistula with the marks of cicatrised sinuses joining it. There was a degree of firmness in the feel of

the integument around the anus, but no induration. I ascertained that masses of fæcal matter produce no inconvenience in passing—a proof that the orifice of the intestine has not been unduly narrowed by the removal of the tegumentary folds around it.

The principal circumstances for consideration with reference to the treatment of the foregoing case were the advanced age of the patient, the debility occasioned by a long-continued discharge, and the amount of the disease. It was my intention to have allowed the fistula to heal completely, and the health of the patient to be recruited before undertaking anything further, if anything further should then appear to be necessary. But after having operated on the fistula, I was compelled to commit the patient for a time to the care of a professional friend, who removed the tegumentary folds after the lapse of ten days from the first operation. The patient, then, from feeling well and cheerful, sank into a low state, from which he rallied very slowly. His recovery was, I believe, retarded by a little unseasonableness as regards the second operation.

Fistula complicated with Ulceration of the Mucous Membrane of the Rectum.—Disease continuous for Five Years.—Operation.—Cure.

Case 35.—Louisa M., aged 39 [Female Case-book, No. 10], a woman of strong conformation and florid complexion, has been subject to occasional

epileptic attacks since the fourteenth year of her age; and she has likewise been troubled with hæmorrhoids. Her father, who attained the age of eighty years, had usually good health; her mother often suffered from hæmorrhoids. She is married, and has had one child.

Soon after the birth of her child, five years before her admission to the hospital, this patient felt severe pain during the evacuation of the bowels, and the pain lasted some time after. Blood and matter in small quantity have occasionally been mixed with the fæcal discharge. In the last three weeks the sufferings have been much augmented. During that time there has been severe pain over the sacrum while the patient stooped, or as she arose from the sitting to the erect posture, and during defæcation. There has not at any time been a decrease of the natural thickness of the fæcal matter, or a change from the natural form.

A fistula situated behind and close to the middle of the anus was found to open freely into the rectum; and around the internal opening there was ulceration of the mucous membrane to a considerable extent. The introduction of the finger into the bowel to make the examination gave rise to very acute pain.

In the treatment of this case there was added to the division of the fistula an incision through the outer part of the sphincter and the ulcerated mucous membrane. For two days after the operation there

was retention of urine, which rendered the use of the catheter necessary. Ultimately the patient was completely relieved of all the pain and inconvenience proceeding from the disease of the rectum.

The severe pain felt by this patient during and after the evacuation of the bowels, and probably, also, the bloody and purulent discharge, were owing to the ulceration of the mucous membrane. The incision added to the operation for fistula was rendered necessary by the same disease.

Before continuing the general remarks on the management of fistula in ano, it is necessary that I should illustrate by an example or two a different form of the complaint. The variety of fistula now to be noticed, like that which has already occupied our attention, has its starting-point in abscess, and the peculiarity consists in the circumstance of the abscess being emptied into the bowel, and the fistula continuing to open into the same place, and only there.

Abscess opening into the Rectum: repeatedly reproduced. —Operation.—Erysipelas.—Cure.

Case 36.—James L., aged 48 [Male Case-book, No. 11], served as a sailor in the merchant service in the West India trade for twelve years, and at that time was habitually intemperate, drinking rum in large quantities. He served likewise in a man-of-

war for five years. Latterly has been employed as a bricklayer, and much exposed to wet and cold.

States that five months ago he suffered severely from diarrhœa, insomuch that he was disabled from pursuing his employment for nearly three months. It was when recovering from this complaint that he felt for the first time a small hard swelling at the left side of the anus. For three weeks, while the tumour was increasing in size, there was much pain, especially during the action of the bowels; and for a portion of that time, the distress was aggravated by dysuria. At length, and while he was engaged at his work, there was sudden and great relief. The swelling had been diminished in size, and only a 'hard core,' to use the patient's expression, remained. But in about a fortnight afterwards a second tumour was formed, which went through exactly the same course; and again, after an interval, a third. This last had been increasing for sixteen or eighteen days when he came to the hospital.

It was now ascertained that the patient's health was pretty good. He was without evidence of disease of any important organ; but his father was said to have died of consumption. In the left ischio-rectal fossa was found close to the anus a red, hard, and painful swelling. There was no constitutional disturbance. On the evening of the day of the patient's admission to the hospital the tumour subsided as it had done before. Evidently the several swellings were the renewal of the same abscess. The discharge

which must have taken place on each occasion of its subsidence escaped attention from having been evacuated into the rectum, where it was retained for the time by the influence of the sphincter. The patient, on being questioned, 'believes' that there was some 'matter' mixed with the fæcal evacuation passed after the subsidence of the swelling.

The abscess having been reproduced, it was speedily opened through the skin. In two days afterwards there was vivid redness around the incision, and for some way over the gluteal region; the inguinal glands on the same (the left) side became swollen and tender, red lines being at the same time observed running to them from the inflamed skin behind. The constitutional disturbance was very slight. Here then was a mild attack of erysipelas. It rapidly disappeared, together with the enlargement of the glands. An examination being then made, an induration was found within the bowel as well as outside it. The fistula was laid open; and the patient left the hospital cured in five weeks from the date of his entering it.

Abscess and Fistula on both Sides, opening into Rectum. —Operation.—Cure.

Case 37.—John C., aged 42 [Male Case-book, No. 9], a labourer, states that about seven years ago there appeared at the left side of the anus a swelling which, after bursting, continued to discharge

matter for three years. He had during that time been subjected to a great variety of medical treatment. At the period mentioned he was subjected to an operation in a metropolitan hospital, and the part was not healed till he had been upwards of three months in the hospital. But before the expiration of that time, another swelling had appeared on the opposite (the right) side. This soon became emptied of its contents, but it continued to discharge matter at short intervals up to the time of the patient's coming to this hospital—a period of four years.

A swelling was found over the right ischio-rectal fossa. There was no opening upon the surface of the swelling, and no mark of any former opening. Obviously the abscesses had discharged their contents into the rectum. The cure was effected by an incision into the abscess through its cutaneous covering, and subsequently the operation for fistula.

The prominent difference between the variety of fistula, of which the last-cited cases are examples, and that with which we were previously engaged, consists, as already indicated, in the fact that one opens into the bowel while the other opens externally. Either may have a second aperture, one within, the other without, the intestine. This varying condition, as regards the outlet, has given rise to the arrangement or classification long received among surgeons, wherein, according as they have two apertures, or

but one (differently placed for the two forms), fistulæ are distinguished as being 'complete,' 'blind internal,' or 'blind external.'

Instead of being, as it commonly is, a single canal, the fistula occasionally is found to branch externally beneath the integument into two or three (case 34), or more sinuses. It is according to my experience when the fistula is associated with stricture of the bowel that the added sinuses are most numerous and most extensive. Seldom does it happen that there is more than a single internal opening. Examples, however, have been met with, of two or three apertures in the mucous membrane of the bowel.*

No age seems altogether exempt from the liability to this complaint. The ages of the persons whose histories I have read to you to-day ranged from four years to seventy-four. Fistula, however, is seldom seen in the very young. I once observed it in an infant ten months old, but it was the result in that instance of an imperforate anus which had been imperfectly opened in an operation; and fæcal matter was evacuated through the fistula.

The causes of the complaint are very various. Constipation seems in some cases to be closely connected with its production. I have while I write a young man (aged 22) under my care for fistula,

* Upon this point M. Ribes states the result of his observation, thus:—'In the greatest number of bodies I have found but one internal opening; I have met some phthisical subjects having two orifices, and one only which had three.'—Op. Citat., p. 36.

who states that habitually his bowels do not act oftener than once in a week. But look to what other patients have said. Some, I find, have reported that the bowels acted daily with regularity, and a few that they were in a relaxed condition before the disease made its appearance. Fistula is sometimes associated with hæmorrhoids. Any circumstances, however, which tend to excite diseased action or irritation in the part will also tend to the formation of abscess and fistula. One man owed the occurrence of the disease to his having rested for some time on a wet plank (case 34).

The fistula very seldom heals spontaneously. I have seen but a single instance. It was in a middle-aged man who applied to me to be treated six years ago. The external aperture of the sinus in this case was a good inch from the orifice of the rectum; the internal one was not discovered. Advised to come into the hospital, the person returned in a few days, but there was then no trace of the fistula. To this statement as to the rare occurrence, so far as my own observation serves, of a spontaneous cure, it should, however, be added, that the cases in which the cure goes on to be effected are exactly those that are most likely not to come under the notice of the surgeon, and that some persons, as you will find, on turning to the narrative of the cases, are slow in applying to be relieved of this complaint. From the outset of the puriform discharge, weeks, months, even years were allowed to elapse before application was made

at the hospital. Here, then, is plenty of time for the cure, if it is to be effected.

Treatment.—Under this head I shall only notice the chief points to be attended to. First, as regards the abscess: It is best to lay it open at an early period. Indeed, an incision into the swelling, even before matter is fully formed, is very likely to check the progress to suppuration, and thus to diminish the amount of the diseased action. But supposing that when the matured abscess is opened it should become manifest by means of the probe, that the sac is continued into the rectum, and that, in all probability, a fistula will be formed, the question arises, ought the suppurating cavity to be laid open into the intestine—in other words, ought the operation for abscess, and that for fistula, to be performed immediately one after the other, or combined in a single incision? I have done this; but having after a short trial ascertained that the progress of the case was not by any means expedited, I have long pursued a different course.

The abscess, then, being opened, the inflammatory action which usually runs high in the skin is allowed to subside, and, at a subsequent period, the cure of the fistula is undertaken. An interval of a few days will often be enough for the purpose. In favour of this plan of proceeding I may mention, in the first place, that the abscess may close up after the evacuation of its contents, and, secondly, that the

cure goes on best in the wound, if the incision be made when all excited action has subsided, when, too, the healing process has advanced some way.

Before an operation for the cure of fistula is proposed, it must be ascertained that there is freedom from organic disease, especially of the lungs and kidneys, as well as of the rectum itself,—subjects which will receive their illustration by and by. Apart too from the presence of actual organic disease, the state of the health generally should be inquired into, for the operation is undertaken with the best prospect of a favourable issue when the system generally is in a healthful condition. As an immediate preliminary to an operation, the bowels are to be acted on briskly with an aperient.

Next, we turn to the operation: The incision which is to join the fistula and the anus into one hollow, may be made at any point except at the fore part of the sphincter in the female; and the exception is made because the division of the muscle in this situation has been known to occasion permanent inability to control the evacuations of the bowel. I do not in this instance speak from personal observation, no case of the kind having come under my notice. But I have been informed by Mr. Copeland that he has had under his care a female who for many years suffered from this grievous distress, and was rendered by it unfit for society, on account of a free incision in the direction adverted to, made by an eminent surgeon, for the cure of a fistula.

During the operation the patient stoops over a chair, or upon the end of a bed,—the knees straight, the hips bent; or if preferred, the patient lies on the side with the under leg straight in a line with the trunk, and the upper one fully bent. An assistant, if there be one at hand, separates the nates with the hands laid flat upon the surface, or elevates the upper one, if the patient be lying down. The probe, a slender one, is to be passed very lightly, and it is best to give the instrument (after it has been made to penetrate the skin) a considerable inclination towards the anus, as the fistula is often near the surface. With the forefinger of the left hand it is ascertained whether the probe has reached the cavity of the intestine. Supposing it to have done so—supposing it decided that the fistula is a complete one, a slightly curved narrow bistoury with blunt end takes the place of the probe. Its point is received against the finger which remains in the gut, and both the finger and the instrument held firmly together are withdrawn at the same time. As they are withdrawn, the structures intercepted by them are necessarily divided.

It is always best that the internal opening, if there be one, should be included in the incision through the fistula, for thus the whole of the disease is remedied with certainty. An aperture in the mucous membrane should therefore be carefully sought for in every instance before the bistoury is introduced. But if, after proper search, such opening into the

cavity should not be discovered, whether because none exists, or because, though existing, it cannot be detected, the operation is nevertheless to be completed. The fistula is to be laid into the bowel, the mucous membrane being perforated with the bistoury pressed against the finger. This plan was pursued in cases 30, 33.

Should the fistula be unusually long—opening into the bowel at a considerable depth, and even though a large portion be continued between the muscular and the mucous coats of the gut, I do not think it necessary to the cure that the fistula should be followed to its end. Moreover, such an operation is attended with risk on account of the bleeding which follows any long incision into the rectum.

Again, should it have been ascertained that besides the fistula one or more sinuses burrow in any direction, these too must be laid open. The same bistoury will often suffice for this purpose; but a sharp-pointed one, guided by a small director, will often be more convenient. Cases 29, 34 are examples of this addition to the operation for the fistula.

Other plans of accomplishing the same object, namely, the division of the tissues which separate the fistula from the bowel, are used by surgeons. In France a rounded stick hollowed at one side, known as Percy's gorget, is substituted for the finger in the rectum, and to it a director grooved to the end is passed through the fistula. The director

serves to guide a pointed curved bistoury, which, reaching the wood, is fixed in it. It is plain that the gorget and bistoury being withdrawn together, the necessary incision will be effectually made. I have operated in this way, but as I believe the plan possesses no advantages over the simpler one before described, I have long abandoned it. It has been proposed to bring the point of the director, after it has reached the rectum, down to the anus, and then to divide the tissues with a straight bistoury; and, to facilitate this method of operating, a director with a probe at the end has been invented. My experience of this proceeding is, that where the fistula is near the surface it answers well, really facilitating the operation; but when the fistula has some depth and the muscular development is large, considerable force is required to bring down the end of the director; and in addition to the use of the necessary force being painful to the patient as well as unseemly, there must be some contusion of the structures acted on. The difficulty in the way of this plan of proceeding is, it may be noted, in a degree the greater in the male body, on account of the projection of the tuberosity of the ischium being greater than in the female.—The history of surgery will show you that the operation has been performed with a knife heated to whiteness. Whenever it is desired to adopt the same principle in performing an operation, wire heated by electricity should be preferred,—ante, page 51.

The principal object to be kept in view after the fistula has been divided, is to prevent the reunion of the edges; and it is attained by inserting a slender slip of oiled lint, which is to be passed up at the opposite side of the bowel, and then laid across into the wound. Some watching is afterwards required for a few days for the same purpose. The sinuses likewise require attention of this kind. The further treatment needed in cases of uncomplicated fistula in a healthy person is but little. If after the operation much pain is felt, an opiate is to be given. The bowels, which, as before stated, should have been made to act freely before the operation, are not to be disturbed for two or three days after, unless there should arise some clear necessity for pursuing a different course. An evacuation will probably occur spontaneously within the time just mentioned. At first the local management will consist in the use of water-dressing lightly applied; for this an astringent lotion will afterwards be substituted; e. g. liquor plumbi in common water, or a solution of sulphate of zinc. All applications to be used warm. The cicatrisation requires about a fortnight for its completion; but I have seen that process complete in eight days, and on the other hand, I have known the time extended to three weeks or more, even in a healthy person. As regards the speed of the cicatrisation, much depends upon the length of the sinus outside the rectum, and its depth, for these circumstances determine

the size of the wound. But where the fistula is complicated with sinuses, and the patient is debilitated by a continued discharge, or by ailing health or advanced age,—all these sources of depression were combined in case 34,—the progress to recovery is then likely to be slow, and a good deal of management becomes necessary. It must be seen that no new sinus forms, and the dressing of the sores is to be varied with the varying appearances. The general health is to be looked to. This is indeed the main object after the actual obstruction to the healing process has been removed by the operation; for when there is no such obstruction the healing process will go on favourably if the health be good. Tonics are here generally advantageous. It is stated in the history of case 34, that quinine and a mineral acid were beneficial. When the tongue is clean and the skin cool and soft, these medicines are likely to come well in aid of nutritious diet and good air. I would further only add, that it is not possible to paint in words the various appearances of each sore and their indications, and if it were possible the process would be infinitely tedious. Nor can such knowledge be acquired by precept. It is to be attained only by close and continued observation of individual cases—of the appearances they present, and the circumstances which influence them.

In no more than a single instance have I witnessed any serious evils occasioned by the operation

for fistula, and in that instance the patient was unfitted for an operation of any kind. Two of the cases under my care in the hospital had attacks of erysipelas, but these passed off in a few days, without for a moment endangering the life of either patient (case 36).

Fistula of long duration in a corpulent person of intemperate habits.—Evil effect of an operation.

Case 38.—In the single case in which death resulted from the operation, a deep external fistula with indurated edges had been in existence for fifteen or sixteen years, and another ran far along the rectum. The patient, Mr. M., was a large fat man nearly sixty years of age, and he had been for many years a very free liver, using gin in liberal quantities every day. Repeated deep incisions were made on different days by the surgeon who attended the case. Mr. M. afterwards complained of what he called 'rheumatism' in his joints, which were swollen from accumulation of fluid; the respiration became hurried; there was dulness on percussion over a great part of the lungs. The patient soon sank. Upon examination of the body, several joints were found filled with puriform fluid. The lungs were in an early stage of pneumonia. The liver was large and fatty. An abscess was found extending from the rectum outwards among the gluteal muscles, and amid the muscles of the thigh below the great trochanter.

The great extent of the disease in this person, and its long continuance, together with his intemperate habits, rendered it imprudent that any operation should be performed in his case; and the repetition of incisions at short intervals — one actually upon another—was especially injurious.

Serious hæmorrhage has not hitherto resulted from the operation in my own practice. The most abundant bleeding that I have witnessed arose not so much from the extent of the incision as from the inflamed and swollen state of the bowel about the inner end of the fistula, and about therefore the blood-vessels of the bowel. I have repeatedly observed that bleeding, which seemed as if to arrest it would be troublesome, ceased altogether when a slip of lint or a pledget was removed, and the wound was cleansed with a sponge and cold water. In no instance has the amount of blood, in my practice, been such as to excite any uneasiness respecting the patient. Examples have, however, been recorded of very alarming hæmorrhage after the operation, and I am disposed to believe that it resulted from the too free division of the intestine. The blood-vessels we have already seen have no inconsiderable size. Moreover, they retain their size, in a good measure, to the point at which they divide into terminal branches, and they communicate freely one with another (ante, page 32 and plate 1). From this arrangement, it may be expected that when one of the larger arteries is

divided, which is likely to happen when the incision reaches any considerable depth, not only would bleeding occur in the ordinary direction, but being kept up from anastomosing branches, the lower end of the divided vessel might be found to bleed as well as the upper one. The bleeding then will, probably, be in proportion to the length of the incision within the bowel. At all events, it is certain that in several of those cases in which extensive loss of blood is reported to have occurred, and where the details are sufficiently stated, the fistulæ are mentioned as having had considerable length—three inches or upwards.* I have already expressed the opinion that the division of a long fistula to its end is not indispensable to its cure. To that I would now add that the incision cannot be carried beyond one inch and a half without a risk of free bleeding. And it must be remembered that to control the bleeding of a vessel at the height of two or three inches within the rectum is a matter of much difficulty. The ligature used with the aid of a speculum is the best mode of effecting the object. Pressure has been applied by distending the rectum (ante, page 49), but this method is very irksome on account of bringing on involuntary efforts to evacuate, and it is less effective than might be supposed, probably, because the vessels do not rest against any resisting structure. They are supported only by the yielding intestine.

* See, for example, Mr. Copeland's cases.—Op. Citat., p. 159.

FISTULA IN PHTHISICAL PERSONS.

The belief which has long commonly prevailed that there is a proneness to the formation of fistula among persons labouring under pulmonary phthisis, has, like several other opinions resting on general impression, been shown not to stand the test of the strict observation of facts. M. Andral states that, among eight hundred persons manifestly affected with phthisis in different stages, fistula existed in only a single instance, and he expresses a decided judgment against the commonly entertained opinion.*

* After treating of ulceration of the bowel, M. Andral continues thus:—'Enfin, il est un autre genre d'altération de l'extrémité inférieure du canal intestinal, dont l'existence a été signalée comme très commune chez les phthisiques: je veux parler de la fistule à l'anus. Nous ignorons comment a pu s'accréditer l'opinion généralement repandue, que cette fistule est très fréquente chez les individus affectés de tubercules pulmonaires; rien n'est plus inexact d'après nos propres observations, puisque, sur environ huit cents individus, bien manifestement phthisiques à divers dégrés, nous n'avons rencontré q'une seule fois une fistule à l'anus.'—'Clinique Médicale,' tome iv., Edit. 4, pp. 307-8.

Upon this statement M. Louis observes: 'Nor have I been more successful than M. Andral; and I can readily account for the common error on the subject of fistula in ano in phthisical subjects by the habit, still adopted by many medical men, of making analysis of their cases by the aid of memory,—that is, of attempting impossibilities,—and of obstinately refusing to count, in cases where it is obvious that process cannot be dispensed with.'—'Researches on Phthisis, &c., 2nd edit., translated by W. H. Walshe, M.D.' (the Sydenham Society's works).

Equally strong testimony in the same direction is borne by M. Louis. In making the examination, post-mortem, of persons who had died of phthisis, this great pathologist found that the tubercular deposit, though present in the small intestine in a large proportion of the bodies, was but rarely met with in the colon or the rectum; while, on the other hand, common ulceration was found with nearly the same frequency in both divisions of the canal. In a series of 108 cases observed by M. Louis, the mucous membrane was free from ulceration in only twenty; and yet fistula was exceedingly rare.

The most important point, however, for the surgeon, in a practical point of view, is not so much the frequency of the presence of fistula and phthisis in the same persons, as the course which he is to pursue when those diseases are found together. The history of a case which I had an opportunity of watching some years ago will help to elucidate the question.

Case 39.—Alexander D., aged 31, an engineer, of sallow complexion, gave the following account of his ailment:—About six weeks ago there appeared near the anus a small, hard swelling, to which he applied leeches and poultices. In a few days the lump burst, discharging some matter, and the opening soon closed. Nearly three weeks since, a similar tumour appeared, and followed the same course, except that on this occasion the discharge continued. On examination, a fistula was found half an inch

from the anus. It opened into the intestine nearly two inches upwards.

It was ascertained respecting this person that he had been subject to looseness of the bowels; that he had suffered at a former period from a troublesome cough, and had spit blood. The chest upon examination gave no other signs of disease, than a slight dulness under one clavicle.

The fistula was divided. For the space of a week the sinus granulated healthily, and it was filling well up; but afterwards the sore became stationary, and the health began to suffer. Pectoral symptoms were soon decidedly developed. Cough became troublesome, and a streak of blood was seen on the expectorated matter. A degree of dulness, too, was now detected beneath both clavicles on percussion being made, and more marked upon the left side. Night sweats also began to appear. Under these circumstances the patient's desire to go to the country was acceded to.

Examples of the presence of fistula in persons affected with phthisis need not be multiplied. I shall only state shortly that in the abstracts of cases which I have drawn from my hospital-books, there is a good number respecting each of which it is narrated that, on account of the existence, more or less, of such symptoms as those detailed in the account of the last case, the operation was declined. Where the symptoms, then, of tubercular disease of the lungs are present, the operation for fistula is not allowable.

It seems probable that the constitutional state in which ulceration of the mucous membrane of the rectum is prone to occur spontaneously, would not be favourable for the reparation of a sinus after an operation. But be this as it may, the wound does not heal; the sore is but enlarged, and the surface secreting pus augmented. In short, the operation fails, and in failing adds to the evil. I am not, however, disposed to look upon a former threatening of phthisis as always a bar to the operation if the health at the time be robust. I have more than once acted upon this view, and have not found reason to regret having done so.—See case 25.

Illustrations of fistula in connection with organic disease of the rectum—stricture and cancer—will be given when those diseases are under consideration.

PROLAPSUS ANI.

By this designation is meant the protrusion of the bowel at the anus. It is, however, limited to the escape of the rectum at its lower end, and a different term, 'intussusception,' or 'invagination,' is applied where the protruded part is derived from the intestine at a greater height. Hence the disease is sometimes aptly named 'prolapsus of the rectum.' Our first examples will be taken from children in an early age. It is at this period of life that the rectum is most commonly prolapsed.

Case 40.—Very lately there was brought to the Hospital, among the out-patients, a child ten months old. It was pale, thin, and flabby, evidently not well nurtured. The bowels had for some days been frequently acted on, discharging slime and blood with the fæcal matter. With every evacuation there was a protrusion of a portion of the gut. The tumour it formed was the size of half an orange. It was broad at the base; at the free end was the opening of the bowel. The surface was of deep red colour; it was marked with many transverse rugæ—the mucous membrane in folds—and was streaked with a bloody slime. At the base of the swelling the mucous membrane was found to be continued into the skin

of the buttock without interruption or depression. When the tumour was taken hold of at any part with the finger and thumb (the former being within the bowel), it was evident from the thickness of the structures and their density, that the muscular coat, as well as the mucous lining of the bowel, was within the grasp. At the same time it was clearly ascertained that no constricting effect was exercised by the sphincter, for the finger moved easily within the gut.

An attempt was made to replace the protruded intestine, but as the child cried, and straining efforts were brought on, the attempt was not persisted in. After a couple of minute doses of Hydrargyrus cum cretâ, combined with small quantities of the Pulv. cretæ compositus cum opio, and the use of the Pulvis cretæ compositus for a few days, the irritability of the bowels was removed, and with it the tendency to prolapsus. In a week the child was brought back entirely relieved from the local malady, and improved in appearance.

Case 41.—A large, florid, puffy, and unhealthy-looking male child, aged five years, was admitted into the hospital after having suffered during several months with descent of the bowel. The abdomen was large and prominent; the skin cool, almost cold. There had all the time been frequent purging and tenesmus, the evacuations being small in quantity at any one time, and occasionally streaked with blood. The protruded mass of bowel was larger than is

common in such cases—as large as a moderate-sized orange, but broad at the base. It was of vivid red colour, and was coated in good part with firmly adherent lymph of dirty-yellow colour. For a considerable time the protrusion of the gut had been constant.

While the child lay on its face in bed, the rectum was restored to its natural position, and without difficulty, by means of gentle pressure. After its replacement, the anus appeared much more open than natural. A compress, supported with a bandage, was applied. The child was kept in bed, and instructions were given that it should be carefully watched during the action of the bowels in order to prevent a continuance of the straining effort. The diet consisted in a great measure of bread and milk. The medicine used was a dose of grey-powder with castor-oil in small quantities, and the Pulv. cretæ compositus afterwards. The prolapsed intestine did not once descend after it had been restored to its natural position; and the recovery was rapid and complete. Soon, too, the whole appearance of this child was altered from a state of ailing and irritability to health and cheerfulness.

Case 42.—Another child under treatment at the same time as the case last noticed, was pale and flabby, with a cold skin. The belly was swollen; the evacuations frequent and light-coloured. The prolapsus took place at every evacuation. It was very painful, and not reduced without difficulty. The

clothes were stained with blood. It was ascertained that this child's food had habitually been 'bread and butter.'

The regimen, medicine, and general management were in a great measure the same as in the former cases, with this addition, that when the alvine evacuations had been brought into a more healthy state, small doses of Vinum ferri were given, with an occasional aperient. For a time the prolapsus was reproduced after every evacuation, but on each successive occasion in a less degree, till it ceased altogether.

In ordinary cases of prolapsus in children, the constitutional state is in fault; and the inflamed condition of the mucous membrane of the rectum is part only of a more generally diffused inflammation or irritation of the same structure. The protrusion, moreover, is but the mechanical effect of continued forcing in the frequent evacuations which the disordered state of the mucous membrane induces. The straining which accompanies the irritation of a calculus in the urinary bladder is not unfrequently attended with the same result in children.

The first object to be attained in the treatment of such cases is the restoration of the bowel to its natural position. Its replacement was readily effected in cases 41, 42. But in the first case (No. 40) having ascertained that the bowel often passed up and down

spontaneously, and having found by examination that no constriction whatever was exercised by the sphincter, I regarded the immediate reduction of the tumour as immaterial. When the return of the protruded gut is required, on account of its congested or inflamed condition, and difficulty is anticipated, it is best to place the child lying on the face, to cover the tumour with a moist warm cloth, and then to use gentle pressure continuously. I speak now of the disease as it exists in children. Hereafter a few additional words will be necessary respecting adults.

The medical treatment, after the restoration of the bowel to its natural position, varies with the circumstances of the case. The child has usually a pale and flabby appearance; the belly is commonly prominent; the excretions are unhealthy in character, and too frequently voided, often mixed with mucus; and occasionally a little blood is discernible. The usual answer to a question put respecting the diet of children brought to the hospital is that it consists of 'bread and butter,' little else.

In the general management of cases of the kind, as well as indeed many others, it is material to insist that the skin shall be cleansed daily with warm water, or soap and water, that the clothing shall be sufficient, for the skin is usually inactive, even cold. Of the diet milk is an essential element, and it ought to be given twice or thrice a day, or oftener, with bread, or other farinaceous sub-

stances. A little meat will be allowed to children sufficiently advanced in age for that food.

The medicines are to be directed to improve the secretions, and to check the frequent discharges mainly by improving their character. The grey-powder, with castor-oil, in a very small dose, followed by the compound cretaceous powder or mixture and, if needful, opium in minute quantities, will be sufficient in most cases to effect the purpose indicated.

It is essential that the child should be prevented from sitting beyond a very short time when the evacuations are passed. The reason for this precaution is, that as the prolapsus accompanies the evacuation, the mass of displaced intestine gives rise to a continuance of the straining effort. In connection with the same circumstance, I may remind you that in the sitting posture, with the trunk inclined forward, the expulsive force of the diaphragm and abdominal muscles is directed towards the back part of the pelvis in a line to the orifice of the rectum; and this position, which is the most effective for removing the fæcal contents of the bowel, must at the same time impart the greatest force for the expulsion of the gut itself. Hence it would be best that the child should, if possible, void the fæces while lying on the back. If there be much tendency to the descent of the prolapsus—if it descend in the intervals of the evacuations, I direct that the child shall be kept in bed, or on a couch. During a

series of years I have not found the prolapsus ani in a child resist the plan of treatment which has been sketched in this outline, except in a single instance. The exceptional case is the following:—

Long-continued Prolapsus in a Child, cured by Operation after failure of other means.

Case 43.—F. S., a male child, aged 5, became affected with diarrhœa during the period of first dentition. The prolapsus began then, and it has continued upwards of three years. The descent of the gut occurs to a considerable extent—one unusual in children—when the bowels are moved. It is stated by the mother that not one evacuation has occurred during the long time over which the disease has extended without being accompanied with protrusion of the bowel. The child has been under well-directed medical treatment for several months; and, in addition to other means, injections into the rectum have been used, especially that so long recommended by surgical writers—the Tinctura ferri sesquichloridi mixed with water. There has been no want of hygienic means, the parents being in good circumstances and very attentive to the child. Still the infirmity has continued without diminution. Considering the long duration of the prolapsus in this instance, and the probably confirmed laxity of the connections of the bowel, it seemed evident that the consolidation which results from the formation of a cicatrix was the most likely means to effect the cure.

Three longitudinal folds of the skin were taken up at intervals around the anus, and were removed with scissors curved upon the side. In a couple of days after the operation there was slight diarrhœa, and the prolapsus returned, but in a less degree than before. Finally the child was altogether relieved of the long-continued infirmity.

As regards the fluid injected in this instance: I cannot say that I am disposed, from what I have seen, to expect advantage from it, or, indeed, from any other used in the same way. As, moreover, the injections bring on fresh action of the bowels, I think it on the whole best to abstain from using them. The same objection, however, does not apply to the use of applications to the mucous membrane while it is prolapsed. That method of applying a local astringent I believe to be useful.

Prolapsus for upwards of Eleven Years.— Unusual appearances.—Cure by Operation.

Case 44.—Archibald F., aged 13 [Male Case-book, No. 20], was brought to the hospital, on account of a large prolapsus irreducible by himself and his friends. The boy's parents were ascertained to be both in but poor health; and his father in early life had a complaint represented to be similar to that from which he now suffers. The patient has never known himself free from his present infirmity. He has never, it is stated, had an evacuation without a descent of the bowel, and he has lost blood

every time the bowels acted. He has usually been able to replace the gut, but at times required assistance.

The prolapsus had a singular appearance. It seemed as if formed of a series of coils of narrow intestine; and this appearance was probably owing to projecting lumps and ridges with which the surface was studded. The lumps varied from the size of the end of the finger to a pea. They were indurated and smooth.

A ligature was placed beyond the base of one of the indurated bodies, and a fold of integument was removed at each side of the anus. The prolapsus did not afterwards return. The lad was seen some months after the operation, when he was much improved in appearance, having gained flesh; and he stated himself to be 'stronger at his work' than ever he had been before.

The long continuance and severity of the disease in this case will probably serve to account for the indurated deposits beneath the mucous membrane. It seemed, at first sight, as if there were something malignant in these formations; but inasmuch as the boy rapidly improved in appearance, becoming even robust after the operation, and the morbid growths seemed at the same time to have decreased in size, the doubt that existed respecting the nature of these, was removed.—I saw this patient after the expiration of two years from the operation. He had no return of the disease of the bowel; and upon

examination, the mucous membrane seemed to have regained its natural smoothness.

I shall now take an example or two of the same disease in the adult.

Prolapsus brought on by drastic purgatives.—Operation.—Cure.

Case 45.—Susan T., aged 35 [Female Case-book, No. 5], is married, but has had no children. She gives the following account of her disease:—At the age of 19 years three or four lumps appeared near the anus, externally. Occasionally the swellings became sore, and rendered her unable to sit on a common chair; but the inconvenience was not great till about six years ago, when after some active cathartic pills had been taken, the swellings became suddenly enlarged during an evacuation of the bowels. The inflammation which then occurred was reduced by the application of leeches and fomentations; subsequently an operation was performed by a surgeon, which, according to the patient's statement, consisted in the removal of three or four lumps. During some weeks after that operation, she was better in all respects; but then the descent of the bowel became worse than ever. She now continued for a time to experience more or less inconvenience, and was obliged to replace the prolapsus after each evacuation of the bowels till about two years before she came to the hospital. At that period our patient began to take 'Morrison's pills,

being advised to use them for the cure of an old ulcer of the leg. She took the pills for five months. They purged her on an average seven times a day. The evacuations often contained blood. She now became much reduced in strength.

On her admission to the hospital the patient's countenance was puffy and sallow, her lips and tongue pale. Discharges of blood were constantly occurring in small quantities. The catamenia regular, appetite good; and, the patient says, she feels nothing of ill-health except exceeding weakness. A finger's length of the bowel is prolapsed. The prolapsed part is nearly cylindrical in shape. At the middle of its free end is seen the opening of the canal. Into this the finger is easily passed; but it is not possible to introduce a probe between the prolapsed intestine and the sphincter. There is no constriction or tendency to it at the base of the tumour. Upon the surface of the mucous membrane, which forms the outer covering of the prolapsed intestine, are seen two or three dark points of small size—dilated veins or small hæmorrhoids. The bowel is easily replaced, but after the sustaining power has been removed, the prolapsus gradually returns, even while the patient lies in bed. The bowels are regular in their action, but the evacuations are always loose.

For a short time, and by the way of preparation for ulterior measures, the patient was allowed a nutritious diet, and she took Tinctura ferri sesqui-

chloridi. At the same time she was directed to remain in the horizontal position even during the day. Her strength, after a while, being by these means much improved, an operation was performed which consisted in the removal of four folds of skin, at regular intervals, around the anus. One vessel required a ligature. On the following day the urinary bladder was emptied with a catheter. The use of the instrument was not required a second time, the urine passing away freely, and being healthy in its character. But in a week aftewards the urine became high-coloured, and it let fall a thick adhesive deposit. This condition, however, was soon relieved; and the patient's recovery went rapidly on. The descent of the bowel returned more than once after the operation up to the tenth day, when it occurred for the last time. In three weeks from the operation the patient was, in all respects, in a satisfactory state. She had gained much in strength, and she then left the hospital entirely relieved.

The sequence of disease in the foregoing case seems to have been this:—There was at first a hæmorrhoidal complaint; but by reason of the violent irritation and action of the bowels brought on by drastic medicine, the protrusion of the mucous membrane which accompanied the hæmorrhoids in their displacement was converted into the descent of the entire thickness of the bowel. The continued use of the drug accounts for the length of the prolapsus.

Structure of the prolapsed part.—The first question which claims our attention in reference to the foregoing cases, is the exact nature of the prolapsus ani. The evidence respecting this subject is to be derived from the examination of the part in the living person and the dissection in the dead body. Taking the latter—the more certain evidence—in the first place, I would state that in a prolapsus of long standing, the tumour, be it small or large, is constituted by the whole thickness of the intestine, which descends through the sphincter. This fact is shown in a preparation I place before you, the length below the sphincter being one inch. It is also well illustrated in two preparations in the Museum of the College of Surgeons,* in one of which the length of the protruded part is three inches, while in the other it varies at opposite sides from an inch to an inch and a half. In each of these the whole thickness of the gut is distinctly protruded. It may be mentioned that in one of the two latter cases the muscular coat of the protruded bowel is thinner than natural, while in the other that structure seems to have more than the natural thickness.†

The examination of the disease in the living person, where the protrusion is transient, gives evi-

* Numbers 1381, 1382, among the pathological specimens.

† A broad solid mass projecting less than an inch beyond the anus, which had been removed in an operation by Boyer, was found by M. Cruveilhier to consist of a piece of the rectum, folded on itself, but much altered, thickened by residence in its new position.—'Anatomie pathologique du Corps humain,' par J. Cruveilhier, liv. xxv., pl. 3.

dence to the same effect. There can be no question as to the structure of the prolapsus when it has attained any considerable size, as in cases 44, 45. The whole thickness of the bowel obviously must, in such cases, have been protruded; but even the smallest and most recent formations that remain below the sphincter have, it seems to me, the same structure. For example, in the first case cited (No. 40), an infant ten months old, the prolapsus had existed but a few days, occurring only during the evacuations; and yet it is mentioned in the report (which was dictated during the examination of the child) that when a part of the tumour was taken between the finger and thumb, the former being within the gut, it was evident from the feel that the muscular as well as the mucous coat was within the grasp. An observation of the same kind, in an adult, will be found at page 140. Surgical writers treat of a form of prolapsus consisting of the mucous membrane alone, thickened and hardened perhaps, by subsequent deposit. For my own part, I have not seen a single case or preparation bearing out this view, and I much doubt its correctness. I have never seen the mucous membrane prolapsed and retained below the sphincter, except when forced down with internal hæmorrhoids.

With the mucous and muscular coats of the intestine, the peritoneum also descends in a prolapsus of the bowel, but only at its forepart. There is thus a deep and narrow prolongation or 'cul de

sac,' of the serous membrane behind the bladder in the male, behind the vagina in the female,—between these and the rectum; and it reaches to the end of the prolapsus. This arrangement exists not only in examples of extensive displacement of the intestine, but even where the protruded part measures no more than an inch.*

The neighbouring organs, whether the urinary bladder or the vagina, are not affected by the displacement of the bowel. They retain their natural position. In this respect the descent of the rectum contrasts with that of the uterus, which draws with it the urinary bladder.

At the base of the prolapsus the mucous membrane which forms its outer covering is in some instances continuous directly with the skin at the anus (cases 40, 45); but in others, the continuity is established at the bottom of a furrow, into which the finger or a probe may be inserted (case 47). The furrow does not exceed an inch in depth. This

* In an example of prolapsus already referred to, page 140 (No. 1382 in the Museum of the College of Surgeons), which I examined with Mr. Queket for the purpose of ascertaining its condition with reference to the point in question, a narrow elongation of the peritoneum is continued down from the back part of the uterus on, or rather within the fold of, the inverted bowel to its end. The serous membrane is therefore at the fore part of the gut, but only on a small (narrow) portion of it. Behind and at the sides the prolapsed bowel is free from peritoneum, as indeed it is when in its natural position.

See also an account of cases of prolapsus ani examined by Professor Cruveilhier in his 'Traité d'Anatomie pathologique générale,' tom. i., p. 547; and the 'Anatomie pathologique du Corps humain,' liv. 21.

difference between different cases is owing to the circumstance that in the one the lowest part of the rectum is prolapsed, while in the other a small portion remains in its natural position. In the latter condition, the arrangement is, in fact, the same as in intussusception or invagination, in so far as the small ring of the inverted part surrounded by intestine is concerned; and in such a case invagination and prolapsus exist together.

The prolapsus does not attain any great length, in consequence, no doubt, of the connections of the rectum—especially at its lower end. The length varies from about one inch to five or six inches. Those cases in which a large extent of intestine has been observed to escape at the anus are, I apprehend, to be considered examples of invaginated bowel descending from the abdomen, where the connections of the gut are more loose. To the same circumstance it is probably owing that the increase of the prolapsed rectum is slow and gradual, while the intestine descending from the abdomen may be protruded with comparative rapidity. Between one form of inversion and the other, the distinction is to be made by observing if a probe may be passed up into the pelvis by the side of the inverted bowel and the extent to which it can be done. If the instrument should pass for a considerable distance, the case is one of invagination, whereas when the rectum is prolapsed, there is, as before mentioned, either no space for the instrument, or but a short one.

It is worthy of remark that the mucous membrane which forms the outer covering of the prolapsed intestine, no matter what the duration of the displacement may be, retains in a great measure its natural characters, with only an increase of its vascularity from congestion, and, in process of time, some fibrinous deposit upon or beneath it. To this circumstance are owing the losses of blood and the mucous discharges which attend upon the disease. The sphincter becomes atrophied when the tumour is large, and has existed some length of time. This state of the muscle, while it prevents the constriction of the protruded mass, gives increased tendency to the renewal of the disease, the bowel being deprived of the support which the sphincter in its natural state is calculated to afford it (case 46).

The prolapsed bowel is liable to constriction and its evil effects—congestion of the blood-vessels, inflammation, and sloughing. Part of this change is attributable to the action of the sphincter thrown into spasmodic contraction by reason of the irritation in its neighbourhood, but no small share of it is owing likewise to the swelling which arises in the protruded intestine from the passive accumulation of blood; and the latter influence constitutes the chief source of constriction where the tumour is large and has been long in existence, for in such case the sphincter becomes atrophied, as before stated.

I have already spoken of the replacement of the prolapsed bowel in children (page 132). The process is sometimes a very difficult one in the adult. It is conducted as follows:—The patient being in the proper position (ante, p. 132), the pressure is made somewhat as it would be for the replacement of a strangulated abdominal hernia. That is to say, an effort to diminish the bulk of the mass at its base will be made with one hand, while the upward pressure is effected with the other. And, as in the case of the strangulated hernia, caution is here also required that the force applied shall not be such or so long continued as to do mischief to the bowel. But upon this point, as upon most others, an example will be more impressive than precept. Not having had an opportunity to witness an instance of an evil of this kind, I willingly borrow one from the able pathologist to whom reference has been already made.

Injurious effect of force used in replacing the prolapsed bowel.

Case 46.—A man aged 60 years (says M. Cruveilhier) applied at the Hôtel Dieu (of Paris) in 1823, on account of a descent of the rectum, of which he desired to be relieved at any risk. The tumour was the size of the closed hand. It was of a deep red colour, and indolent. According to the patient's account, it had habitually dropped down

during the evacuations of the bowels, and returned immediately. But on the present occasion it had not returned since the preceding day. By means of efforts which appeared to M. Cruveilhier to have been too forcible, and especially too long continued, the bowel was replaced, and it was proposed to perform in a few days after an operation to cure the disease. On the day following, however, the patient's state was alarming; he had vomiting and hiccup. He died within five days. In the examination of the body, when the prolapsus had been passed upwards, the anus was found to be enormously enlarged, its size being determined by the outlet of the pelvis. The sphincter was represented by some pale fibres, scarcely to be distinguished from the surrounding fat. In the liver the cause of death was made manifest in an innumerable multitude of small puriform deposits, containing a whitish fluid.*

I need scarcely say that this was an example of phlebitis or pyæmia, and that the disease was the result of the violence done to the intestine in the efforts made to replace it. If the restoration of the bowel were very difficult, it might be proper to incise the margin of the anus, in order to widen the opening; and means should be taken to reduce the swelling of the gut.

Respecting the permanent cure of the disease, it

* 'Traité d'Anatomie pathologique générale,' par J. Cruveilhier, tom. i. p. 553.

may be said, in general terms, that while in children the rule is that an operation is not necessary, in the adult the rule is the reverse of this. Supposing that prolapsus has continued for some time, notwithstanding well-directed treatment, the operation may then with confidence be resorted to in a healthy person.

The Operation.—The object of any operation undertaken for the relief of the prolapsus must be to bring about such a degree of the adhesive process as shall prevent the descent of the gut. The looseness of tissue which allows this to take place is on the outer side of the gut, yet it is remarkable that though the operations we resort to are on the opposite side, the cure is nevertheless effected. It may be that the cicatrised integument—the consolidation of it and of the subcutaneous cellular structure induced by the operation—serves to support the muscular coat; or that the disordered and loosened mucous membrane, which brings on the prolapsus of the whole thickness of the bowel, being restrained from descent, the muscular coat will retain its natural position. Possibly these different circumstances contribute each in a degree to the beneficial result. But whatever may be the correct interpretation of the mechanism by which the operation acts, the fact of the cure remains. Where the descent of the gut is accompanied with hæmorrhoids, the removal of these will serve to cure the prolapsus

likewise. But where the case is not complicated with hæmorrhoidal disease, the operation that I have most frequently performed consists in removing longitudinal folds of the skin, with a little encroachment on the mucous membrane also (cases 43, 45).*

The fold of integument is raised with a pair of forceps constructed for this purpose, and it is then snipped off with a pair of scissors bent on the side. But little dressing is necessary. Lint dipped in water put over the part is at first all that is required. Afterwards cleanliness and an astringent lotion during the healing process will be enough. Some bleeding occasionally occurs (case 45); and it is well to remember that though it should not take place at the time of the operation it is liable to come on in an hour or two after. The patient ought, therefore, to be watched, so that the bleeding vessel may be secured at once.

Caution is required as to the extent of the integument removed,—I allude to the breadth of the fold. In the natural state, the skin of the anus is in plaits,

* The operation in this form was first performed by M. Dupuytren; but the excision had been carried into effect, though in a different manner, and the principle—that of bringing about adhesion of the parts—had been clearly stated previously by Mr. Hey. It was, however, for the descent of hæmorrhoidal tumours that Mr. Hey put his operation into practice. See the essay 'On the Cure of Procidentia Ani in Adults,' in 'Practical Observations in Surgery, by William Hey,' third edition, p. 438; and the lecture 'De la Chute du Rectum,' in 'Leçons orales de Clinique chirurgicale, par M. le Baron Dupuytren,' tom. i. p. 166.

which are necessary to allow the enlargement of the orifice during defæcation. In this act the sphincter muscle is dilated, the skin but unfolded. If, therefore, the latter (the skin) should be too freely removed, there is afterwards difficulty in voiding fæcal matter, when it is formed or lumpy. I have been informed by a surgeon of much experience that a female, who underwent an ill-performed operation, has, to his knowledge, for many years suffered constantly all the inconvenience of the condition adverted to. She has also been subjected to great pain from time to time—indeed, whenever the fæcal matter is not fluid; and it has even been found necessary to enlarge the anus by incision, in order to unload the bowel. The same unfortunate result has been known to follow a similar error committed in excising external hæmorrhoids.—(ante, page 62.)

Hitherto I have not met with an instance of return of the prolapsus after operation, but it is stated by M. Velpeau that he had seen a few examples.* The circumstances which in these instances originally caused the disease, or those

* After having mentioned the success which attended the operation in his hands, M. Velpeau adds this qualification: 'Mais je dois convenir que sur un de mes opérés la maladie est revenue au bout d'un an. J'ai vu trois ou quatre malades opérés par d'autres chirurgiens que moi, suivant le méthode de Dupuytren, et chez lesquels la chûte de l'anus s'était réproduite. Il y a quelques mois j'ai vu un Anglais opéré par Dupuytren lui-même, et chez lequel il y a maintenant récidive.'—'Leçons orales de Clinique chirurgicale,' tom. iii. p. 135.

under which it was reproduced, are not mentioned by M. Velpeau. And such information would obviously be necessary in order to determine how far a few exceptions affect the value of the operation; for if the same condition which first occasioned the descent of the gut were suffered still to continue, there would be good reason to apprehend a return of the infirmity. Hence, some care on the part of the patient and the medical attendant will be needful after the operation. Hence, too, I have been led to make an addition to the plan of operating before mentioned in cases of severe prolapsus. To this we shall return presently.

I have also succeeded in curing the prolapsus by applying ligatures to small pieces of the mucous membrane, just as if hæmorrhoids were tied. A short time since I followed this method with entire success in a female patient (an adult), who had been for a few years much troubled with a descent of the rectum, measuring about an inch and a half in length. In this, as in all the other cases of prolapsus ani that I have had an opportunity of examining, the mucous membrane was easily distinguished by the feel from subjacent firmer structure—doubtless the muscular coat of the intestine. Both the plans of operation were combined in the case of the boy A. F.—(No. 44,) on account of the extent of the protruded bowel; and this course I am disposed to adopt generally in anything like similar circumstances.

We meet occasionally with cases in which it is

not prudent to undertake any operation. Some of the circumstances in which the operation is not likely to be attended with a beneficial effect are exemplified in the two following cases :—

Prolapsus ani and Phthisis.

Case 47.—Anne D., aged 9 [Female Case-book, No. 11], a pale emaciated child, has had, for some time, a protrusion of the bowel with every evacuation. There is no difficulty in replacing it. In an examination made during the prolapsus, it was ascertained that the probe might be passed an inch up by the side of the prolapsus, between it and a small investing part of the bowel, which still retained its natural position. The urine has come away involuntarily for the last two months.

Various means, exclusive of an operation, were used ineffectually, in the hope of preventing the descent of the rectum; but as pus was detected in the patient's urine, and the presence of tubercle in the lungs was found to be abundantly evident, it was manifest that the case was not fit for the resort to any more active measures with a view to accomplish that object.

Long-continued prolapsus.—Albuminous urine.

Case 48.—Ellen L., aged 25 [Female Case-book, No. 7], is a pale, thin person, with impaired health.

Appetite said to be voracious. On the morning after a tedious labour which occurred two years ago, she first became aware of the descent of the rectum. The bowel since that time has come down upon her making slight exertion, or even upon her standing for a short time, and always with the evacuations. The tumour which the prolapsed bowel forms is said to be the size of two fists.

In the hospital this patient's health became improved,—she gained strength, and her face lost its pallor—under the use of the citrate of iron. Folds of integument together with a small portion of the mucous membrane were then removed. Diarrhœa set in afterwards, diminishing the likelihood of a favourable result, but it soon yielded to treatment. The wounds healed up favourably, but the operation, though beneficial in a degree, was not sufficiently so to prevent the reproduction of the prolapsus.

At a later period the patient became affected with epileptic seizures, which, it was ascertained, she had formerly been subject to, and her urine now proving to be albuminous, she was advised to trust for relief to the use of a support for the rectum.

After the lapse of a couple of months this patient returned to the hospital, with the expectation that a further effort would be made for a permanent cure of her infirmity, but on account of the former state of her health, and the indication of renal disorder still given by the state of her urine, the

advice not to go beyond the palliative treatment was repeated.

When from any cause the permanent cure is not to be looked for, whether on account of the presence of other disease, as exhibited in the foregoing cases, or the unwillingness of the patient to submit to the necessary treatment, advantage is derived from the use of a compress supported by a spring or bandage, adapted to the peculiarities of the case.

PAINFUL EXCORIATIONS AND ULCERS OF THE SKIN AND MUCOUS MEMBRANE.

HERE I propose to treat of the excoriations, fissures, and small ulcers which are met with in the lower part of the bowel and at its orifice. Our attention is to be confined to idiopathic breaches of surface. The ulcerations which are obviously part of a more general or constitutional complaint—phthisis, for instance—do not, therefore, come within the scope of these observations. The diseases we are now to be engaged with have this in common, that the suffering they occasion is disproportioned—in some instances extremely so—to the amount of the morbid alteration. Indeed, the distress which seems to be felt, and the nervous anxiety which is manifested by even firm-minded persons suffering under them, are often surprising when the small extent of the local malady is considered. The phases of these complaints being very varied in the amount and the position of the morbid change, as well as in the degree of distress they give rise to, I shall first read the histories of a series of cases of gradually increasing severity, and then proceed with the commentary upon the whole.

Case 49.—A barrister, about 35 years of age,

states, that he has been troubled for some months with itching and painful irritation, especially at night, and when ailing in any degree. He has had, moreover, actual pain during defæcation, which comes on during the evacuation, and lasts for half an hour afterwards.

Upon examination, two or three streaks of excoriation were found around the anus—no more than the epithelium being removed—and a single point of ulceration, not larger than a pin's head, between the folds of the skin. After having, as he informed me, tried various remedies, including acetas plumbi with opium, as a lotion and as an unguent, this gentleman was entirely relieved by the following plan:—The bowels were kept free by the management of his diet after an aperient of confection of senna had been used for a short time. The little ulcer was once touched with a point of sulphas cupri. Afterwards, in the morning when the bowels had acted, and in the evening, hot water was applied with a sponge for a few minutes, and then each time an ointment, consisting of hydrargyrus cum cretâ and ceratum cetacei (ʒss. to ʒi.) was applied.

The use of these remedies soon gave relief, and, in a couple of weeks, wholly removed the ailment.

It is unnecessary that the forms of disease in which local applications are sufficient for the cure should be illustrated further. I therefore proceed with cases which require an operation for their permanent relief.

Case 50.—About fifteen years ago, after a miscarriage, Mrs. —— was attacked with external hæmorrhoids. This malady gave little trouble until above five years since, when, after child-birth, the hæmorrhoidal tumours became enlarged, and excruciating pain was at the same time felt during the evacuation of the bowels. For three years before the operation, pain constantly came on under the same circumstances; and, during the last three months, it was most intense when the fæcal discharge happened to be at all consistent or figured. To prevent this source of increased distress, the constant use of magnesia was found to be a sufficient laxative. There was no pain, except after an evacuation.

When I saw this lady—it was about a month after her accouchement—her general health was good; indeed, it was habitually so. But pain came on with every alvine evacuation, beginning at the commencement of the act, and lasting a couple of hours or longer. I found her lying upon a couch, while she strove to teach her children, but was unable to satisfy herself in the manner of discharging that duty on account of pain. Abrasions of the cuticle were apparent towards the back part of the anus, together with a small amount of ulceration. There was comparatively but little pain excited during the examination of the bowel in this case.

Various applications having been used by this lady's medical attendant, but without material

advantage, I divided the membrane through the ulcerated and excoriated part, and a permanent cure has been the result.

The account of the foregoing case is abridged from a detailed statement, for which I am indebted to my friend Mr. Gasquet, by whom my assistance was required for its management.

Case 51.—Mr. ——, a gentleman, aged about sixty, who has the appearance and constitution of a healthy person fully ten or fifteen years younger, had been suffering for three months before he applied to me, from distressing uneasiness about the lower part of the rectum. He stated that at first there was a small lump (external hæmorrhoid), from which a surgeon had removed, by incision, a clot of blood; but, notwithstanding this operation, the uneasiness continued.

When I visited this gentleman, I found that he had been taking an electuary containing sulphur, and that when his bowels acted under the influence of this medicine, much pain was felt during the evacuation, the fæcal matter at the time having a strong sulphurous odour. When the bowels acted without the medicine, there was no pain during the act of defæcation. Subsequently, however, in an hour or even after as long an interval as two hours, a distressing uneasiness came on and continued a good part of the day. There was here, as in the preceding case, but little of the extreme sensibility during examination which we shall find occurring in

other persons. No excoriation or other appearance of disease existed externally, and, indeed, it was only after a very careful scrutiny that any diseased appearance was detected. The examination, it may be mentioned, was perseveringly continued, from the conviction I entertained, that the occurrence of pain after the evacuation was a certain indication of disease of the mucous membrane. A single point of thin and nearly translucent membrane having been found, an incision was made through it. Thereby the patient was entirely relieved, and he has remained well after a lapse of upwards of six years.

Case 52.—Mr. H——, aged about forty, a robust and generally healthy person, is head master of a grammar-school, but in the habit of taking a fair share of exercise. The following outline of the facts is taken from a detailed history of his malady, furnished to me by the patient:—'Ever since (to use the words of my informant) I assumed the 'toga virilis,' now over twenty years ago, I have been subject to flatulence, but am always better in summer than in winter; and whenever I get plenty of strong sweating exercise, I am all right and sound.' Several years ago (1843), this gentleman began to be troubled with a sharp cutting pain when he went to the closet, and the pain was in proportion to the hardness of the fæces. Under the advice of a respectable practitioner, who attended his family, Mr. H. at this time took medicine thrice a day, each dose producing at least one evacuation of the bowels.

Of this treatment he 'soon got tired;' but under the use of it he was relieved of the local pain, and he continued free from suffering for about two years. About the expiration of that period, the old dyspepsia and flatulency continuing, and in an aggravated form, he was induced to place himself under the care of a homœopathic practitioner, and, says the patient, 'whether by his dieting, his globules, or what not, I certainly improved in health for a time. But we differed on one (to me) grand point. He contended, that the fæces of a man in good health should be hard; and truly mine came hard, and shortly afterwards my old cutting pains returned.' Mr. H. now had recourse to the enema, and by the daily use of this expedient, he was usually free from pain. Without the water, an evacuation was never painless. By and bye, even with the injection, there was a recurrence of pain, which began each time while the instrument was being passed. The duration of the suffering was 'uncertain, extending to one, two, or three hours, sometimes the whole day, and occasionally part of the night also. Finding (says Mr. H.) that the suffering was often less when I was lying down, I got into a habit of evacuating just before going to bed, so that lying down might aid me. But though successful generally by this plan, I have often lain awake for hours in pain.'

When I saw this gentleman, in 1849, I prescribed local applications, which, with the enema, afforded relief. After having gone on, however, for several

months, with but little pain, and that inconstant, he called upon me a second time—at Easter, 1850. I now found that he had gradually come to suffer a good deal. The pain occurred as before, after an evacuation, or the passage of the enema-pipe; never in any other way. Its duration had steadily increased, and 'latterly had lasted from stool to stool.'

On account of the horror the patient had of the pain that would be occasioned by examination of the rectum, from the recollection of a former occasion, I had chloroform administered. While he was under the influence of this agent, I found an ulcer in the mucous membrane, a little below the point of the coccyx; and there were likewise three streaks of excoriation externally towards the posterior part of the anus. I therefore incised the mucous membrane, and the skin as well, over the ulcerated parts. The report may be ended in the words of the patient:—'Immediately after the operation, which was performed without my knowledge or consciousness, the part commenced healing, and in about three weeks I was a different being. In less than a month the parts were as well as ever they had been, and to this time (years from the operation) I have never felt any pain whatever. My old enemy, the flatulence, however, still teases me at times.' After the expiration of more than four years from the operation I learned from this gentleman himself that he was in good health and wholly free from the pain under which he has suffered so severely.

Case 53.—Mr. C., aged about 35, a tradesman, in large business, a very early riser, and active in his habits, in general good health, applied to me in 1847. States that he has had 'some trouble about the bowel on and off for fourteen or fifteen years.' At first the inconvenience was slight, but attacks of increased distress used to occur even then; and while these lasted there was pain with prolapsus during the evacuations. At that early period the patient was in the habit of 'taking drugs, which often brought on severe purging,' and to this habit he attributes his constant suffering. For upwards of two years he has felt pain after every evacuation of the bowels, beginning after the lapse of about ten minutes from the act of defæcation.

At first Mr. C. found some mitigation of suffering from lying down; but soon he was too much irritated by actual pain ('agony' he calls it) to remain still. He then devised for himself another mode of obtaining a degree of relief, viz., after having been at the closet he sat over a pail of cold water, the vessel being provided with a lid perforated like a night-chair, so that as he sat the diseased part was immersed in the water. Two hours were so spent upon every occasion before he could make the exertion even of dressing. Then, too, the pain still continued, though in a mitigated degree, insomuch that he was not free from suffering from eight in the morning until about two in the afternoon. For some time before I saw this patient he was not free

from pain during the entire day. This, however, was on alternate days, for he avoided daily evacuations, in order to escape one-half the distress. If the bowels happened to act at night, both Mr. C. and his wife were hindered from sleeping for as much as five hours by his restlessness. Mr. C. has mentioned to me, that while the pain lasted he had difficulty in restraining himself from being petulant to his customers, or any other person with whom he had intercourse. To use his own words, he was often ready to 'snap at them.' But, when once the pain ceased he was perfectly well; and his appetite for food all this time was as good as ever it had been.

On making an examination, I found considerable folds of skin around the anus (the remains, no doubt, of external hæmorrhoids), and within the bowel, opposite or below the point of the coccyx, a small circular ulcer of the mucous membrane.

The patient being put under the influence of chloroform, the membrane was divided through the ulcer, and thenceforward all the old suffering ceased. Moreover, though he had, before the operation, suffered from constipation, he has since then after the lapse of eight years been wholly free from that inconvenience.

The next case was seen by me in consultation with my friend Dr. Jenner and Mr. Stevenson of Rochester, in December, 1851.

Case 54.—Mr. P., aged about 35, a farmer of

robust frame, and in general good health, for nearly twelve months, whenever the bowels acted, has been suffering pain, which has always come on during the evacuation, and has lasted about four hours each time. When the bowels acted of an evening, he has had pain all night. The suffering has been excessive,—a degree less, however, when the fæcal discharge is fluid; and he has found the lenitive electuary the best auxiliary to attaining that end. At other times, and independently of the alvine evacuations, Mr. P. is entirely without uneasiness of any kind in the bowel, and he then feels quite well.

From recollection of the effect upon some previous occasions in the country, the patient could not control himself so as to submit to the examination. Chloroform was therefore administered; and, when he was under its influence, I found the muco-cutaneous covering of the sphincter ulcerated to about the extent of a sixpence, the bottom of the ulcer being of a vivid red colour. The ulceration was seated in the middle, at the back part of the bowel, immediately within the verge of the anus; and it involved the membrane covering the external as well as the internal sphincter. Above it there were two small, hard, and pendulous projections, about half-an-inch long, probably the remains of internal hæmorrhoids.

I incised the ulcer, together with the mucous membrane and skin beyond it, and snipped away the

polypiform bodies at the same time. A full dose of Battley's liquor opii was prescribed soon afterwards by Dr. Jenner.

Upon one occasion, after the operation, when the bowels acted, the fæcal matter being indurated and in a large mass, the patient felt some soreness for three or four hours; but he states that the sensation was wholly different, in kind as well as in degree, from the pain he had long been accustomed to. A few days later also and under the same circumstances, there was a little soreness during the evacuation, but it did not continue afterwards; and when the patient left town—ten days after the operation—all uneasiness had disappeared. At this time a firm cicatrix occupied the place of the ulceration; and the examination of the part now gave only the sensation of slight soreness, which went off at once. The patient mentioned that, in a similar examination before he came to town, his shirt was wet through from perspiration, and his 'skin became all over black' (his own phrase) from the agony he suffered. The pain, too, and of the same excruciating kind, lasted for six hours. Even now, he says, he has still a curious fear of the action of the bowels, the remains of the 'horror' he used to feel.

For our inquiry into the nature of this disease, by and bye, it will not be immaterial to mention, that to his physician, Dr. Jenner, Mr. P. said, a few days after the operation, that 'I must have made a great gash;' for that, while the size of the fæcal

matter previously (since his ailment began), when figured at all, 'was no bigger than a tobacco-pipe' (his own expression), lumps of large size now passed without trouble. Lately Dr. Jenner has informed me, that our patient, whom he has seen since his return to the country, is perfectly free from suffering, and quite well in all respects.*

* In 1853 we had a case of disease at the upper part of the alimentary canal, in which the morbid alteration and the effects were, 'mutatis mutandis,' very similar to those we have now witnessed in the rectum.—John B., æt. 56, applied at the hospital on account of almost entire inability to swallow food. There were some peculiarities which served to distinguish the case from the ordinary forms of stricture of the œsophagus.

The patient had been suffering for many months, and the power of swallowing had been gradually diminished. When he came to the hospital, emaciation was extreme, and he was then only able to get down fluids. The attempt to pass even a small bougie, and afterwards a sponge moistened with a solution of nitrate of silver, into the lower part of the pharynx, brought on a convulsive state; and a little blood was discharged. There was much tenderness on pressure being made behind the lower part of the larynx at the left side, but no swelling. The poor man sank exhausted in about twelve months from the time he first began to suffer inconvenience in the shape of a little soreness of throat. In the last few days of his life, when wandering in his intellect, he swallowed with but little if any difficulty.

On examination of the body, the mucous membrane of the pharynx was found ulcerated to the extent of an inch by an inch and a half behind the lower end of the larynx at the left side. The muscular structure was not diseased.—The rationale of the phenomena in this case and in the series of cases detailed in the text is the same. In each the muscle was thrown into forced action, and the passage through it closed in consequence of the irritation of the ulcer of the mucous membrane and the influence of the reflex nerve-action. But the ultimate result as regards the health or the life of the patient is very different in the two diseases, obviously because of the difference in function of the parts affected.

You will observe that the general health of those patients, was, in every instance, unimpaired, except insomuch as it was affected by the distress resulting from the disease of the rectum; and I find by the notes of several other cases, that, so far as my observation has gone, it is commonly so with persons suffering from different forms of this singular local malady.

The position and the degree of the morbid alteration, it has been seen in the cases, vary considerably. Thus the disease occurs externally, and within view, therefore, for examination, in the shape of excoriations merely, consisting in the removal of the epithelium, or as minute oval or rounded ulcers in the furrows, between the folds of the skin about the anus (cases 49 and 50). In other cases it is situated more deeply as an excoriation, again, or ulcer, or as a narrow chap or fissure, immediately within the grasp of the external sphincter (case 54); or still higher up as an ulceration of the mucous membrane covering the internal muscle, an inch or more from the extremity of the bowel. The ulcer is met with at or towards the back part of the gut, not unfrequently opposite or directly below the point of the coccyx (cases 52 and 53). I have, indeed, had to treat excoriation at the fore part of the anus, within the grasp of the superficial sphincter, as well as externally, but I have not hitherto had occasion to operate for ulceration of the membrane, except at the back part or the sides of the bowel.

The external ulcer has usually a yellow or ash-coloured base, the internal one is often of a vivid red colour. The edges are undermined in some instances, in others this is not the case. In two of the persons that I last operated on, the ulcers (both being internal) were in the opposite states;—in one, the point of a probe passed readily all around for about the tenth of an inch beneath the ulcerated membrane, while the edges were firmly adherent in the other case. In both the muco-cutaneous membrane seemed to be ulcerated quite through. Ordinarily, the membrane is not ulcerated through, though instances of its being so have often come under my observation. I have not hitherto been able to trace out satisfactorily the condition which precedes the state of ulceration. It seems probable, however, that a pustule or little abscess is the precursor of the ulcer. In one instance, the disease having been of no long duration, and the suffering comparatively slight, the membrane appeared to be thinned from beneath, but not visibly ulcerated upon the surface (case 51). This condition I am disposed to consider one form, at least, of an early stage of the disease.

The extent of the ulcerated surface varies from the minutest point (case 49) to the size of the end of the finger (case 54). It seldom exceeds this size. The amount of actual disease, therefore, is but trifling in comparison with the pain, which is always described as harassing, and, in some instances,

amounts to actual agony. For example:—A lady had difficulty for some hours in teaching her children (case 50); another person 'found it hard upon him' to attend to his ordinary avocations; a third, a man in business, was wholly disabled from all occupation for a couple of hours, and afterwards, for the space of three or four hours longer, was impatient and 'snappish' on account of actual pain (case 53). Two of the patients (cases 52 and 54), from 'horror' of the pain they had before experienced, declined to submit to an examination of the bowel without the use of chloroform; and, in one instance which came under my observation a few years ago, so great and so diffused was the pain, that, while merely pressure was made upon the nates preparatory to an examination into the nature of the disease, the patient—a member of the medical profession—darted uncontrollably away as if he had been stung. All this sensibility is, doubtless, owing to the peculiar organisation of the membrane affected,—the degree or mode, that is to say, in which the bowel is here supplied with nerves, for ulceration occurs higher up in the bowel without the pain, certainly without the agonising pain which attends upon the ulcer at or near its orifice. With more or less intensity the same sensibility exists in other outlets of the body, and it is obviously connected with their proper function, the organs being through them in communication, so to say, with the outward world. Every one is familiar with the acute sensitiveness of the

eyelids, and most persons know how much suffering a small ulcer affecting the lip, especially on its inner side, will produce whenever food is taken. One other fact is worthy of notice before we quit this part of our subject, namely, that a wound of the mucous membrane of the bowel, made in the situation of the most painful ulcer, for instance, the wound made in the operation, though it gives rise, as would be expected, to common soreness, is not attended, when the bowels act, with any of the peculiar or depressing distress that arises from the idiopathic disease. See especially case 54.

So long as the parts are undisturbed, the ulcer is not attended with pain, and of this the action of the bowel is the common and constant exciting cause. In many patients the suffering begins, as might be anticipated, with the passage of the fæcal matter (cases 49, 50, 52, 54,); but it is remarkable that in no small proportion of cases it is only after the lapse of some time from the act of defæcation that the pain begins. The interval that elapses between the evacuation and the occurrence of pain varies from about ten minutes (case 53) to half an hour, a whole hour, or even two hours (case 51). I cannot explain at all satisfactorily why an interval of time elapses between the application of the exciting cause and its effect: nor can I account for the variations in its length; for though the delay seemed in most cases to be longer as the morbid change of structure and the suffering were slight (case 51), yet it was not

invariably so. In the example of greatest distress that has fallen under my observation, the pain did not arise till more than two hours after the bowels had acted.

The duration of the suffering is equally various in different persons. It lasts in one case half an hour (case 49); in another, two hours (case 50); in a third three or four hours (case 54); and in some instances, even a longer time. One of our patients was able to calculate on being relieved in about six hours, and no sooner (case 53); while another came by degrees to be constantly in distress, with an increase at the time of defæcation (case 52).

The attack of local pain being at an end, the patient feels perfectly well, and apparently would continue so were it not for the disturbing effect of the passage of fæcal matter. On this account, some of the sufferers manage to diminish the number of the evacuations (case 53); and others have even reduced the quantity of food to a very small amount.

Treatment.—As all persons suffering from these complaints state that the severity of pain is in proportion as the fæcal matter is figured and hard, and the converse, it is above all things necessary in the management of a case—be it excoriation or ulceration, be it external or internal—that means should be taken to keep the evacuations in a half-fluid state. To attain this object the enema of warm water is more effective than any other means, and more

generally applicable; but it occasionally happens that even the use of the apparatus for this purpose is not endurable (case 52). Laxative medicines are advantageous, and of various kinds in different persons. Confectio sennæ is often useful; magnesia has been found efficient (case 50). I have known a patient complain that the confectio piperis prescribed by an eminent surgeon had augmented the suffering very much; and the addition of sulphur to the lenitive electuary had the same effect in another (case 51).

The horizontal position of the body after the evacuation is useful to relieve pain, but only within narrow limits. I have read somewhere the recommendation, that, in order to miss the pain, the patient should get into the habit of evacuating the bowels at bed-time. It might, 'a priori,' be expected, that, considering the effect of position on the large veins of the rectum, the expedient alluded to would be beneficial; turning, however, to the evidence afforded by our cases, you will find it to have often been of but little or no avail, for the suffering in some continued while they lay in bed, even so as to deprive them of sleep during several hours (cases 52, 53, 54).

With local applications, the excoriations and ulcers which affect the skin are commonly very manageable; but, as is found in treating sores elsewhere, the same remedy is not always equally efficacious. In cases of mere excoriation, I have

often derived advantage from the grey powder (hydrargyrus cum cretâ), mixed with cerate (case 49) and with or without a lotion of liquor plumbi diacet. mixed with oxide of zinc. A light touch of argenti nitras or cupri sulphas, at intervals is generally effectual in causing the small external ulcers to heal. But when the ulceration is within the bowel, over the sphincters, I have little reliance upon any medicinal application; and the recourse to such means becomes the less important since an operation which is unaccompanied with risk rids the patient at once of all suffering. For the relief of pain the local application of chloroform in cerate, or in the state of vapour, is a useful resource. See the observations on Neuralgia of the sphincter, page 181.

The Operation.—The necessity for administering chloroform or ether for the operation depends on the degree of pain and spasm likely to arise when the anus is distended. Accordingly, in some of our cases, the anæsthetic agent was not used, the operation in itself being, in truth, but little painful (cases 50, 51); while in others, its use was almost indispensable, on account of the violent pain and spasm that arose whenever the orifice of the bowel was in any degree disturbed (cases 52, 54). Now and then I have derived some assistance from the use of a speculum. But in most cases it is neither necessary nor advantageous; and in some, from the position of the ulcer, it is wholly inapplicable. For inspect-

ing the surface of the bowel near the anus, the best form of the instrument is widely open (fenestrated) at one side. I have had one constructed with a wide fenestra and fitted with a plug, which fills the hollow, and is adapted to the edge of the opening. The plug, of course, is withdrawn when the instrument has been fairly introduced. I may add that the instruments in common use are unnecessarily long.

The method of performing the operation is as follows:—The fore-finger of the left hand being applied upon the diseased part, a probe-pointed bistoury—that which I use is narrow, and the cutting edge reaches only over one-half the blade—is drawn fairly through the sore into the subjacent tissue. This is the method for ordinary cases; but, where the ulcer is large, or complicated with other diseases, as fistula, some addition to the simple incision is necessary, according to the nature of the complication.

The sphincter is not necessarily interfered with. It is indeed very probable that the muscle is scored or notched, as the incision is carried quite through the ulcerated part. Still the interference with the muscular fibres is not to be considered as contributing to the success of the operation. I have known it effectual when the muco-cutaneous membrane above and below the sore had been divided upon a director introduced beneath it (case 51).

The operation is, according to my experience, invariably successful in cases of the ordinary kind;

but, inasmuch as it is not the operation commonly resorted to or recommended by surgical authorities, it may be well to shew what the usual method is, in order that you should have before you the means of comparing one with the other.

The French surgeon Boyer it was who first relieved this painful disease by an operation. The character and extent of his operation will be best judged of by his own words. The bistoury being introduced along the fore-finger of the left hand, 'I divide (he says), at a single stroke, the intestinal membranes, the sphincters, the cellular tissue, and the integuments. I thus form a triangular wound, whose summit corresponds to the intestine, and the base to the skin; it is sometimes necessary to lengthen this latter; I do it with a second stroke of the bistoury. In some cases the intestine escapes from the edge of the instrument, and the wound of the cellular tissue extends higher up than that of the intestine; it is necessary then to introduce the bistoury anew into the rectum in order to prolong the incision of the intestine. When the constriction is extreme, I make two incisions, one at the right the other at the left; and when the fissure is situate in front or behind I do not include it in the incision;' In this last case the lateral incisions are made.*

There cannot be a doubt of the efficacy of the

* 'Traité des Maladies Chirurgicales, &c., par M. le Baron Boyer,' 4 éd. tom. X., p. 143.

operation so performed. Nor can it be doubted that it was a great improvement in surgery; for, before it was resorted to, those afflicted with a most painful malady were left to suffer on without a real remedy. Little wonder then that Boyer's practice should have been universally adopted and implicitly followed by surgeons. But the result of our cases proves that the operation is a much larger one than is necessary, and therefore a more serious one, because attended with infinitely more risk of the common dangers of surgical operations as well as of the peculiar peril of free incisions about the rectum, viz. bleeding difficult to controul. In common with others, I practised the same method of operating, until a circumstance occurred which led me to adopt a different plan. It is now more than fourteen years ago that being about to perform Boyer's operation upon a female in this hospital, the patient, who was lying in bed, and not held with sufficient firmness, having suddenly moved away, I drew the bistoury through the ulcerated membrane only. It occurred to me at the moment to ascertain if that slight incision would be enough to relieve the patient. The success was complete; and from that period I have used no other operation in ordinary circumstances.*

* At the time, I thought that this method had originated altogether with myself; but upon examining various books with a view to be assured upon the point, I found in a lecture of Sir Benjamin Brodie's a remark which shows that in certain cases the modified operation had been previously performed by another surgeon :—'The ulcer is always cured by a division of the sphincter. This, however, is not always

No case shows better than this how long an erroneous system may be pursued in deference to an erroneous theory. The sore to be cured was a small one, such as would, in most other parts, give little trouble to the patient or the surgeon; and the sphincter seemed to be mainly concerned in the disease, because of its being in a state of violent contraction, resisting very forcibly even the surgeon's efforts to examine the part. But this state of the muscle is, in my judgment, no more the actual disease than the spasm of the orbicularis palpebrarum is that curious and painful malady so often met with among children—strumous ophthalmia. The passage of fæcal matter is in the one case, what the stimulus of light is in the other. The muscular contraction is equally intense in both; and the division of the muscle is no more necessary for the cure of the one than of the other. Doubtless the spasm very largely aggravates the suffering in both instances. Its cessation, however, in the complaint we are specially engaged with, by division of the ulcer and the mucous membrane only, proves sufficiently that the muscle is not the seat of the disease.

This important subject will receive further elucidation while the question is discussed which is next to engage our attention.

necessary, unless the muscle be actually contracted. Mr. Copeland has observed that, when there is a simple ulcer, the mere setting of the mucous membrane at liberty by dividing it longitudinally, so as to include the ulcer in the incision, is sufficient to effect a cure.'—'Medical Gazette,' vol. xvi., 1835.

PAINFUL CONTRACTION OF THE SPHINCTER ANI.

It is in deference to authority and to usage that I bring this subject before you. The discussion it involves will, however, not be without its use, as it will enable me to state the more fully the opinion I have been led to form about a very painful affection of the rectum. The same eminent surgeon who introduced into practice the cure by incision for the disease we have just been considering, described also the spasm of the sphincter as a substantive malady, giving rise to exactly the same suffering, and requiring the same operation for its cure, as the ulcer with spasm of the muscle. Indeed, Boyer seems to have regarded the muscular contraction as the real ailment of which the ulcer was but an accidental accompaniment, or a consequence. This doctrine, namely, that the spasm of the sphincter exists as an idiopathic complaint, giving rise to all the symptoms of the ulcer or fissure, including pain during and after defæcation, and not only so, but that it is also the primary as well as the principal morbid condition, even when an ulcer is present, is very distinctly expressed by two other surgeons of the highest authority—Dupuytren* and Sir B. C.

* After having mentioned the ulcer, M. Dupuytren says: 'La

Brodie.* So far as I know, too, the same view is generally maintained by writers who treat of these diseases.

Notwithstanding the respect in which I hold the authority of the distinguished surgeons whose names have been mentioned, I am bound to state that I have hitherto, and after diligent search, failed to discover a single example of the disease as above defined, and that I dissent from the conclusion they have arrived at respecting the influence of the sphincter muscle in those complaints. If the division of the sphincter were still to be regarded as necessary for the cure of the ulcer or fissure of the mucous membrane attended with spasm, the question of the independent existence of muscular spasm as an idiopathic disease would probably be of but little moment in a practical point of view; but, if we are justified in considering it established that the sphincter is but secondarily or sympathetically affected in that disease, and that a very much

gravité de cette affection dépend donc principalement du spasme douloureux des constricteurs de l'anus; la fissure n'est même qu'un accident; ce qui le démontrerait c'est l'existence de la constriction douloureuse sans gerçure, qui d'après des chirurgiens célèbres, serait à l'autre cas comme 1 est à 4.' And again: 'La constriction spasmodique du sphincter, avons nous dit, est la lésion véritable; l'ulcération alongée, nommée fissure ou gerçure, n'est qu'un phénomène secondaire.' —'Leçons orales de Clinique Chirurgicale,' tom. iii., p. 284-6.

* Sir B. Brodie looks on the ulcer as the result of a contracted and hypertrophied sphincter; and to the morbid actoin of the muscle he ascribes the distress which accompanies the disease described in the foregoing pages.—'Lectures on Diseases of the Rectum,' in 'The London Medical Gazette,' vol. xvi., p. 26.

smaller operation—one not involving the sphincter —is sufficient, not only to cure the ulcer, but likewise to cure the spasm of the muscle at the same time, then the question of the existence or non-existence of another disease requiring for its cure the section of the muscle, becomes of practical importance. The whole subject is obviously one of evidence,—the evidence of facts fully ascertained. Now, if you turn to the lectures of Dupuytren and Sir B. Brodie, you will find, that they contain no cases illustrative of the views maintained by the authors respecting disease of the sphincter. Boyer, however, is more circumstantial,—and with Boyer, let it not be forgotten, originated the mode of viewing the malady, as well as the plan of treatment I venture to question. In his work 'On Surgical Diseases,' this surgeon treats of 'constriction with fissure;' and 'constriction without fissure;' he ascribes to both the same symptoms, and makes the diagnosis between them to depend on the presence, in the former, of fixed pain at a point, together with an ulcer,—these being absent when the muscle only is affected. To illustrate the latter disease,—viz., the 'constriction without fissure,'—three cases are given; but upon looking into the details of these, I find that, while one contains no account of the examination of the rectum, and is therefore to be set aside as valueless, it is said of the other two that increased pain was excited in each by pressure upon a particular point, and, likewise, that at the painful point,

disease (an induration in one, excoriation or ulcer in the other) was felt during the examination. The cases, therefore, plainly do not bear out the author's own general statement respecting the characteristics of the disease they are adduced to exemplify.* Indeed there cannot, it seems to me, be a doubt that they were examples, not of an idiopathic affection of the sphincters, but of disease of the mucous membrane with sympathetic spasm of those muscles, and therefore analogous, in all respects, to cases detailed in the last lecture.

The conclusion, then, I have come to upon this subject, is that where pain, brought on by the fæcal evacuations and continuing after them, happens to be present, the fault—the morbid condition—is not in the sphincter, but in the skin or mucous membrane covering it, and that the division of the muscle is not required in order to remove the patient's suffering. At the same time it should be clearly understood that there is occasionally no inconsiderable difficulty in discovering the local ailment. In one instance, it was only after a protracted search that the diseased point was discovered, (case 51). In that case, too, not only was the morbid part very minute, but there was an absence of any special tenderness upon pressure being made over it. Still the cure was effected by division of the mucous membrane at the suspected point.

* 'Traité des Maladies Chirurgicales,' &c., 4 éd. tom. x., p. 139-150.

NEURALGIA.

Neuralgia, by which term I mean the presence of pain without appreciable change of structure at the seat of the pain, may doubtless occur in the rectum as it does in so many other parts, and yet, judging by the silence respecting it of practical writers of most authority, as well as by my own experience, I believe it to be very rare. It might be added, that many of the cases adduced by those writers, English and foreign, who have treated of the subject, were not, in my opinion, examples of neuralgia, inasmuch as they appear, by the details given, not to have been free from obvious disease in the part.

Out of a very small number of cases which have seemed to me to be really instances of nerve-pain in the rectum, I select the following, because of the severity and constancy of the symptoms :—

Case 55.—Mr. M., a gentleman aged 26, of nervous and anxious temperament, while affected with gonorrhœa, was almost suddenly seized with very severe pain, which he referred to the circumference of the anus. The suffering became intense when even very light pressure was made, especially over the fore part of the sphincter ani, which felt rigid ;

and the patient screamed out when an attempt was made to pass the finger into the bowel. The sphincter was in a continued state of spasm; but even where the pain was greatest the skin was pinched up without any aggravation of suffering. The pain was constant, and it was so severe as to hinder sleep altogether. It was, moreover, so much augmented by every movement of the body that the patient was compelled to remain stationary in one position in bed. Sitting up was wholly out of the question.

At the same time there was an entire absence of constitutional disturbance. The skin was cool and soft, the pulse quiet, tongue clean. The gonorrhœal complaint remained stationary the while. The passage of urine was unattended with any unusual degree of irritation in the urethra or elsewhere, and it was neither hurried nor frequent, occurring no oftener than three times in the day. The bowels, too, acted naturally, and the evacuations were not attended with pain.

Leeches were applied without any apparent benefit, The extract of belladonna locally, and opium administered in different forms, produced no cessation of pain even temporarily. A degree of comfort was afforded by the application of very hot water. After having used the anodynes fully without advantage, and being desirous to examine more completely into the state of the rectum and perineum, I had chloroform administered, but was obliged to desist before

insensibility was induced, on account of depression of the breathing and pulse, accompanied with violent sobbing. I ascertained, however, that there was no appreciable disease of the prostate or fulness below it. At the moment, it occurred to me to apply the vapour of chloroform over the seat of pain. The effect of the application was very beneficial. After the lapse of some minutes there was a degree of relief to the suffering; and after the same remedy had been continued at intervals, as occasion arose by the recurrence of the distress, for a couple of days, the patient himself applying it, the pain, which had lasted ten days, entirely subsided.

The absence in the foregoing case of all signs of inflammation about the prostate, the bladder, or the rectum, and the want of evidence of cellular inflammation, taken in connection with the state of the general health and the manifest anæsthetic effect of the chloroform locally used, have led me to the conclusion, that, notwithstanding the existence of gonorrhœa, the pain is to be considered an example of neuralgia affecting the sphincters of the rectum. From the disease which last engaged our attention this is distinguished, even without minute examination of the mucous membrane, by the entire want of connection between the pain and the alvine evacuations, as well as by the constancy of the suffering.

STRICTURE.

This division of our subject will include the cases in which the narrowing of the bowel results from the cicatrization of an ulcer, and those in which it arises idiopathically from morbid deposit, but independently of any malignant or cancerous growth. I shall begin by illustrating the first mentioned as the simpler of the two forms of organic change, though the less frequently met with.

Ulceration of the Rectum and of the Skin—Cicatrization.—Stricture.

Case 56.—M. M. aged 25 years, a slender, delicate-looking female, perceived for the first time a puriform discharge from the rectum about seven months before her admission to the hospital. A good deal of ulceration was found around the anus and within the bowel. There was no evidence of phthisis or other serious constitutional ailment. The patient continued for a time to be much distressed with tenesmus, the frequent discharge of puriform matter, and much pain. The irritability of the bowels was combated with cretaceous mixture and opium, and the careful management of the diet, which was confined for the most part to milk with bread and a little

meat. With these means the symptoms were relieved and the ulcers took on a healthy appearance. Still the irritation of the bowel was constantly recurring. The patient was then put on the use of gallic acid as the only medicine, and the discharge was immediately diminished in quantity and frequency. The bowels soon acted only twice a day and healthily.

After a short interval the report runs thus:—The ulceration of the bowel is much improved; the external ulceration is healed. But there is, at the distance of about two inches up the gut, a circular stricture, admitting the end of the finger to pass. This is evidently the result of cicatrization. There was no evidence, it should be observed, of the existence of any disease of the bowel before the present attack. Local applications are now well borne, whereas heretofore everything medicated appeared to irritate. The patient, feeling herself much improved in all respects, left the hospital soon after.

Typhus.—Ulceration of the Rectum.—Stricture resulting from the Cicatrix.

The following narrative is abridged from the detailed history drawn up at my request by the medical attendant of the case—my friend Mr. Rayner, of Stockport.

Case 57.—In the summer of 1847, M. D., aged about 40 years, after having been exposed to the infection, was attacked with symptoms of typhus in a mild manner; and thus the fever proceeded for

some days. But upon the fourth or fifth day the symptoms wore a more serious character, and at a later period they became alarming. A violent convulsive fit came on, producing opisthotonos. Fearing disease of the brain, Mr. Rayner bled his patient; blisters were applied, and ice was kept to the head. Among other remedies, an enema containing turpentine was administered, and with decided relief to the convulsive movements of the limbs. On the twentieth day of the attack of typhus, the convalescence was established.

In a few days after the turpentine enema had been used, the alvine evacuations became very offensive. Fetid pus was frequently voided; and so irritable was the rectum, that when the desire to evacuate came on, the patient was unable to retain the fæces for a moment. The evacuations were passed without pain at this time. Not long afterwards M. D. went to Paris, where, although his strength was gradually improved and the fetid discharge from the bowel ceased, he found an increasing difficulty in defæcation. In the end, the evacuation became a task of a full hour's duration.

'On his return from France (says Mr. Rayner to me) M. D. consulted the late Mr. Liston and you. A careful introduction of the bougie, and an injection of acetate of lead in solution were recommended. This lotion you suggested, because there still existed some discharge of matter, and a small ulceration at the constricted part. When he arrived at home

I carried out these views. In an examination made at this time, I very distinctly saw, with the aid of a speculum, the stricture and the ulcer, which (latter) was no bigger than a pea. The appearance of the gut was as though a ligature had been tied around it, leaving an opening apparently little more than the size of a large quill. There was much venous congestion of the part, and one spot was more irritable looking than any other, which being touched, a desire for evacuation was at once induced.' The patient has himself told me that having suffered a good deal during the passage of the bougie, he found that a little chloroform which he was led to inhale gave him entire relief from the pain. He administered it to himself, and after a few trials he came to be able to tell when the instrument might be passed without occasioning him any uneasiness, his consciousness being the while quite perfect. As time rolled on, the symptoms were relieved: the motions passed with less effort, and the discharge ceased. The bougie and the lotion were then given up.

Now (Dec. 1853), after the lapse of six years, the alvine evacuations are of tolerable size. They are voided without pain or much effort; the substance is not flattened; and the irritability requiring immediate attention is but rarely felt. The general health is excellent. M. D. rides on horseback, and suffers no inconvenience from it. Mr. Rayner's impression is, that a moderately confined state of the bowels is

on the whole most comfortable to his former patient. And he adds the fact that upon one occasion when engaged in making an examination with a speculum, he happened to see some soft fæcal matter come through the stricture. It was thrown sideways, so that as it escaped from above one side of the constriction, it was projected beneath the opposite, as it would be, if the two sides of the stricture were situated at unequal heights.—I saw this gentleman in the autumn of last year (1854). He was in excellent health and leading a very active life in the public service. I learned from him that the evacuations which used to be two or three or even more in the day, occurred then habitually but once; at the same time that the fæcal matter was formed and of the natural thickness. In short, there was nothing in his condition to remind him of his former malady.

The ulceration of the bowel in this instance may have been the result of the general disease only; or it may have been the immediate consequence of the action of the enema, and, if so, was probably due to the stimulating effect of the turpentine upon tissues which had already taken on a tendency to disorganization.

In such cases, the contraction of the bowel is not to be regarded strictly as a morbid state. It is in fact the result of the cure of a previously existing disease,—the cicatrization of an ulcerated part with the contraction which accompanies that process. The destruction of the mucous membrane only is

not, I am disposed to conclude, followed by narrowing of the gut. In order that the cicatrix should become a stricture, it is, I believe, requisite that the fibro-cellular coat, which is in some sort the framework of the intestine, should be involved in the ulceration.* I had lately under my care a case of disease elsewhere, which seems to bear upon this point:—The outer layer of the prepuce was mortified to some extent, but the progress of destruction was arrested quickly by the treatment adopted. The skin seemed to have been destroyed in its whole thickness, still the process of cicatrization was not attended with the slightest contraction, though the surface, which measured about two inches by half that extent in breadth, was completely covered over with a new skin. This result I am disposed to account for in the same way.

Judging from what occurs in cicatrization elsewhere—in the skin for instance, for it is there that we have most experience of the process—it may be concluded, that the narrowing which goes along with the cure of the ulcerated membrane of the bowel ceases in a few months after it has been healed over. Indeed the contraction is probably sooner completed in the intestine than elsewhere, on account of the nearly entire absence of all mechanical impediment to its progress. Afterwards there is no narrowing.

* M. Cruveilhier states explicitly that contraction does not occur unless the 'fibrous tunic' is destroyed as well as the mucous membrane.—'Traité d'Anatomie Pathol. Générale,' tom. ii., p. 231.

It will be noticed that in case 57 the sense of obstruction arose after the gentleman had gone to France, that the healing process was just completed upon his return, after an interval of a couple of months, and that since then, and for several years, there has been no augmentation of the infirmity. Nay, a very remarkable improvement has taken place, the stricture yielding apparently to the influence of the bougie and the fæcal substance, and accommodating itself to the function of the bowel.

Where the stricture does not materially interfere with the comfort of the person, as in case 57, it is most prudent not to interfere very actively, for all such interference is attended with a risk of mischief. We are helped, moreover, to this conclusion by a fact just mentioned, namely, that after a certain limited space of time there is not, in this form of stricture, a tendency to become worse. But where the calibre of the intestine happens to be so much contracted as to interfere seriously with its proper function, the edge of the cicatrix might be notched, and the opening thereby widened should be hindered from again becoming narrowed by means of the assiduous use of the bougie. If, in such a case, the stricture were near enough to the orifice of the bowel to admit of the manipulation and the control of hæmorrhage, a good result might be attained by the removal of the rim all around, the edges of the part being then brought together with sutures.

I shall now read the histories of a few cases of

the more ordinary form of stricture, in which the contraction of the gut arises spontaneously, without previous breach of surface.

Idiopathic Stricture.

Case 58.—E. O——, æt. 30, [Hospital female case, Book No. 11,] is a healthy-looking person, and has not been subject to any illness except that arising from the disease of the rectum. Her mother has long been affected with constipation of the bowels. So likewise has her sister; and the latter, who is a few years younger than the patient, has had indications of pulmonary phthisis as well. For three years E. O—— has had difficulty respecting the evacuation of the bowels, and has for the same time observed the fæcal matter to be of smaller size than natural. At the commencement of the period she suffered (according to her own statement) from piles, which bled occasionally. Two years ago she was led to understand that the gut was narrowed; for at that time a plum stone which she had swallowed, after having been lodged in the lower bowel for twelve days, was brought away by injections. She was treated for fistula during the past year. There has been, during the last six months, a discharge of matter and blood, in small quantities, accompanying the fæcal evacuations, and, likewise, independently of these. When consistent, the fæcal matter is the size of the little finger, and flattened.

On examination of the rectum, there was found, at the orifice a fulness from turgescence of the vessels, and behind, at a distance of a joint and a half of the fore-finger upwards, a distinct roughness —ulceration of the mucous membrane. At the sides and fore-part of the gut, the surface was smooth, apparently healthy. Further up, at the distance of two finger-joints, was found a circular constriction, into which the top of the finger entered, but the whole end of the finger did not penetrate. The microscopical examination of the puriform fluid evacuated with the fæcal substance, showed it to be formed of pus and epithelium cells, with granular corpuscles. The treatment consisted in the administration of small doses of hydrargyrus cum cretâ with Dover's powder, the use of an astringent lotion and of the bougie. The patient remained under care no more than a fortnight, when she discontinued her attendance at the hospital, feeling herself a good deal improved.—The next report is :—

After the lapse of twelve months this person returned to the hospital, in the present month, April 1853. Her countenance has still no indication of disease or suffering. It is not at all shrunk or sallow. She states, on being questioned, that she has lost flesh in a degree. The fæcal matter is generally liquid. When formed, it is about the same size as previously reported. The evacuations are often accompanied with puriform matter and blood ; and a fluid of the same kind is voided at other

periods also—it may be several times a day. The discharge is always brought on by exertion, as that required by the patient's household duties. It continues two or three days together, and then is absent as long. At times a little blood passes separately, and usually in small lumps. Before the access of the discharge, there is severe pain in the lower part of the back, over the sacrum. The patient states her chief distress to be caused by the pain just adverted to, and the morbid discharge from the bowel, together with its frequent evacuation.

The disease of the rectum is but little altered from the condition reported a year ago. The ulceration is still confined to the back part of the gut. The stricture is slightly more prominent, and the edge, which is thin, yields before the pressure of the finger. There is no induration about the ulcerated mucous membrane or elsewhere, except that which belongs immediately to the stricture.

Injurious effect of Escharotics and forced Dilatation.

Case 59.—Mr. P., a native of South America, aged 38 years, of dark complexion and spare habit, came under my care in the winter 1851-2. Respecting this gentleman's previous history I received a detailed medical report, from which the following outline is drawn. I saw the case in consultation with Dr. Arnott.

Fifteen years ago Mr. P. was seized with (what is

called in the report) 'inflammatory dysentery;' and that disease is said to have continued in a chronic form for two or three years. Soon constipation was troublesome, and became gradually more and more confirmed. At first there was an interval of two days between the alvine evacuations, then of three days, later of six, seven, eight, and at last of fifteen, and even twenty days. It was now suspected by the medical attendants that the obstruction was due to a mechanical cause. During the protracted intervals between the evacuations the patient felt a sense of weight in the right iliac fossa. The abdomen, at the same time, was swollen; and it was judged, from manipulation of the belly, to be from accumulated fæces. For two years, but especially during the last six months, a whitish pus has been discharged either alone or with the excrement.

The patient had been subjected, before his coming to this country, to various local treatment in different countries. In Paris, where Mr. P. had been attended by surgeons of eminence, caustics (lapis infernalis * and Vienna paste †) were applied to the interior of the stricture through a speculum. These applications, after a short time, gave rise to so much inflammation in the bowels, with constitutional disturbance, that they were discontinued. The treatment by bougies is said also to have occasioned

* The caustic potash—potassæ hydras of modern pharmacy.

† This substance is a mixture of caustic potash five parts, and quick lime six parts, made into a paste with alcohol.

symptoms so serious that their use was at once relinquished. It was then sought to open the stricture with the fingers, the surgeon's hand being passed through the sphincter while the patient was under the influence of chloroform. At first no serious effect resulted from this proceeding, but after the dilating efforts had been made energetic, the disturbance of the patient's health became alarming. The evacuation of the bowels was arrested for twenty-four days; and it became necessary to remove the fæces by mechanical means. This difficulty arose from a severe attack of enteritis, brought on by the force applied to the stricture in the effort to dilate it.

When I first saw this gentleman he was very thin, indeed emaciated, and pale; but there was neither appearance nor other evidence of constitutional taint or of organic disease, except that in the rectum; and it was satisfactorily ascertained that the present emaciation supervened on the treatment above briefly narrated, which had repeatedly brought on severe constitutional symptoms—fever and abdominal pain, lasting many days at a time.

I found the stricture from three to four inches above the orifice of the rectum. With some management I was enabled to press the point of the finger against it. It was wide enough to admit the smallest rectum bougie. There was no ulceration of the mucous membrane below the stricture, and none within it, so far as could be ascertained by the

touch. Neither was there any thickening within reach, except at the strictured part.

The regular action of the bowels was brought about with an enema daily administered. The local treatment consisted in the introduction on alternate days or twice a week, of the solid bougie, or the membranous one distended after being passed through the constriction—to be hereafter further noticed. With, at the same time, the use of a tonic—the citrate of quinine and steel, and strict regulation of the diet, this gentleman was speedily much improved in health, and he soon manifestly gained flesh. He returned to his home before long with the understanding that, though he must not expect the entire removal of the disease of the bowel, he might anticipate that, with the continuance of proper management, mechanical and dietetic, the local malady would be kept in check, and its evil effects in a great measure prevented.

From cases illustrating the symptoms of the disease in its progress, I now turn to others in which the obstruction of the bowel resulting from the stricture was known to have brought on a fatal result. The first of the cases to be cited was in the hospital under the care of Dr. Walshe, in consultation with whom I saw it. From the detailed report in Dr. Walshe's case-book the following outline of the facts has been taken with his permission.

Stricture rapidly producing complete Obstruction.

Case 60.—M. F——, a middle-aged female, was admitted into the hospital in 1847. Her father died of consumption: her mother of apoplexy. Soon after the birth of an only child, twenty-five years ago, a hernia formed, but from that complaint she has never felt inconvenience, though it has not been supported by a truss or any other mechanical means. Throughout life, and up to her last illness, this person's bowels were moderately regular in their action. They were moved habitually every day, and occasionally two or three times. They were never constipated. This statement she repeated distinctly when questioned at different times. But about six months ago the bowels were much relaxed, acting six or eight times, or oftener, in the day. No appearance of diminished size or flattening has at any time been observed in the matter evacuated.

It was upon the 24th October that the patient was admitted into the hospital. There had then been no alvine evacuation since the 11th of that month, but she had not felt pain or inconvenience till the 21st, when there was severe pain in the abdomen. She was sick several times on the 22nd. Various purgatives, including calomel, colocynth pill, and croton oil, had been given by her medical attendant; and an enema, containing turpentine,

had also been administered, but all without any effect.

When this patient was seen in the hospital, the abdomen was swollen and resonant throughout. There was pain, but it was not augmented by pressure. At the groin was a tumour, the size of an orange—a femoral hernia. It was flaccid, was continued under Poupart's ligament, and was passed into the abdomen without difficulty. Vomiting continued with hiccup. The fluid ejected from the stomach contained neither biliary nor fæcal matter. To overcome the obstruction various means were used, but altogether ineffectually. They included the free use of opium and of the enema. The tube of the stomach pump, with which the injection was administered, was stopped when a third of its length had passed; and upon its eyes each time when it was withdrawn was found only some 'grumous mucus.' The fluid was not retained a moment; all returned even while it was injected. On one occasion the injection was followed by the discharge of a little flatus; otherwise, no flatus was voided, and no fæcal matter whatever. The patient sank after constipation had lasted for sixteen days.

In the examination of the body all the parts of the great intestine above the seat of the obstruction were found very largely distended. The transverse colon, instead of its usual course, was directed downwards to the right iliac fossa, and thence regained its natural position in the left hypochon-

drium—being, therefore, V-shaped. The small intestine was moderately filled with flatus, but in some parts it contained only fæcal matter. The surface of the intestines generally was more or less injected, and chiefly on the right side. Upon the cæcum were found minute hæmorrhagic spots beneath its peritoneal coat. The omentum was highly injected. There was no exudation of lymph anywhere.

Nearly opposite the brim of the pelvis the great intestine was found very much contracted, the stricture being a little above the reflexion of the peritoneum. The bowel below the stricture was somewhat narrowed for about an inch, the rest to its end seeming to be of the natural size. Above the contraction the gut was dilated and thickened considerably. At the narrowed part the gut seemed as if tied with a string, the calibre of the stricture being but little bigger than a quill. The source of the contraction was found to be as follows:—1st, on the outer surface of the bowel a narrow layer of fibrous substance (fibro-vascular under a magnifying glass), most abundant behind, and there grasping the intestine firmly; and 2nd, a thin deposit of the same kind on the inner surface of the muscular fibres. These fibres, too, were slightly thickened.

The mucous membrane within the grasp of the stricture was ulcerated all around; and below the ring of ulceration the membrane was puckered into longitudinal folds, which radiated around the stric-

ture. The folds were in part thickened. Below the stricture the mucous membrane was ulcerated to the extent of half the circumference of the bowel. There was ulceration above the constriction likewise, and the ulceration here was about an inch in length, the edges being thickened, and inseparable from the surrounding tissues. Over the ulcerated surface transverse muscular fibres were discernible. There was no trace of cicatrization anywhere.*

Being asked by Dr. Walshe to advise respecting the surgical view of this case, I consulted with Mr. Liston as to the prudence of undertaking an operation for the relief of the obstruction, by forming an artificial anus above its presumed position. Mr. Liston was opposed to an operation, chiefly, I believe, on account of the uncertainty as to the nature of the obstacle. Now, however, with the experience of some additional years, I would be strongly disposed, in circumstances seemingly similar, to form an artificial anus in the left colon.

The circumstances most worthy of note in the foregoing case are the sudden occurrence of insuperable obstruction, and its completeness—in effect, for it was so nearly complete that the escape of fluid fæcal matter and, with a trifling momentary exception, even of gas was hindered, as well as the passage of the enema, the stricture at the same time not

* The preparation is numbered 4050 in the Museum of Anatomy in the College.

being complete—at least not appearing to be so when the gut was removed from the body.

The next case, though it has not been under our observation, is noticed because of some remarkable circumstances connected with it. I have in this instance the less unwillingness to depart from the rule of adducing only facts with which I have been personally acquainted, because the case happens to have been recorded by a physician of whom I was led to form, many years ago, a very favourable opinion from some knowledge of him in his hospital. I allude to M. Biett, formerly physician in the St. Louis hospital in Paris. The patient was Talma, the celebrated tragedian. From an elaborate report published by Biett,* the following brief statement of the leading facts has been taken.

Case 61.—In his youth Talma had good health. He did not suffer from any serious illness, but he had himself observed that habitually 'the abdominal functions' were not regularly performed. At one time and during a considerable period, he experienced a failure of his usual vocal power on the stage. His voice became enfeebled during the performance, insomuch, that after having consulted several members of the medical body without benefit, he was about to relinquish his profession, when he himself discovered the cause of the alteration in his voice, and a remedy. Feeling on one occasion a good deal

* 'Histoire de la Maladie de Talma, par L. Biett,' in 'Répertoire Général d'Anatomie et de Physiologie Pathologiques.' T. iii., p. 98.

of distress and colic pains, he used the enema repeatedly, and this brought on several evacuations. In the evening of the same day he found to his astonishment that his natural strength of voice was restored, and sustained too without difficulty to the end of the performance. It was the resource, thus accidentally suggested, which enabled him to continue in his profession for many years afterwards. His health, nevertheless, was not undisturbed. The bowels were still irregular in their action, and difficult of management; and this inconvenience continued throughout his life.

In 1802 he put himself under the care of Corvisart, but no benefit was derived from the treatment of that eminent physician. In 1809 he had a severe attack of illness, attended with vomiting and diarrhœa.

It was in the spring of 1826 that M. Biett was first consulted. Talma was now 62 years of age, and he still appeared on the stage. Besides communicating to his physician the details from which the foregoing outline has been taken, the patient now dwelt especially on the increase of his suffering in the preceding year. He went, he said, ten times a-day to the water-closet, tormented with urgent needs and believing that he should be largely relieved, and yet the evacuations consisted only of some mucus, accompanied, however, at times, with a little fæcal matter, which was diffluent, or formed into small cylinders, like the evacuation of a child. The enema,

which formerly and for a long course of years had been of so much service, now failed of its effect. The symptoms became gradually worse; eructations and violent and uncontrollable but ineffectual efforts to evacuate were constant sources of distress. The abdomen became very much distended, and the outline of the intestines was traceable through its walls, especially the transverse and the descending colon. The latter was enormously distended in its whole length, down to the pelvis. Movements (forcing or expulsive contractions) of the intestines sometimes occurred, and they came on so suddenly, that the 'knots of the bowels seemed to strike against the abdominal parietes.' At no time was pressure on the belly productive of pain, whether made at a point or over a large surface. Such was the condition and the general character of the symptoms even to the close of life.

A short time after M. Biett's attendance began, several men of eminence were associated with him in the management of the case—among others, MM. Dupuytren, Breschet, Broussais, Fouquier. Upon examination being made by the rectum, the pelvis was found filled with a soft swelling, such as might be formed by intestine loaded with its natural contents. The tube of a stomach-pump, used to administer an enema, was stopped at the height of six or seven inches, and its end, when withdrawn, was found to be coated with clotted blood. The enema returned while it was being injected. After

twenty days of complete obstruction, during which a great variety of treatment had been resorted to, some gas escaped per anum, and was followed by a small quantity of fæcal substance. Subsequently, and for a time, further evacuations in small quantities were obtained, the smallest evacuation, even the escape of a little air, always giving great relief to the patient. But within a month, matters became much worse than before. Dropsical effusion was now observed in the legs, and at length, after renewed obstruction had lasted for forty-eight days, the patient sank exhausted.

In the examination of the body the intestines were all found largely distended with air and fæcal matter; and the surface was slightly reddened in two broad longitudinal bands—recent peritonitis. Among the convolutions was observed a small quantity of dark fluid, and in the pelvis a few ounces of the same fluid.

The pelvis was filled with an enormous sac,—the upper part of the rectum largely dilated. When the sac was raised, a circular narrowing of the gut was discovered. This was the stricture. It was at the distance of six inches from the anus, and proved, upon close examination, to be wholly impervious. It was, in fact, a solid fibrous cord, but on the surface irregular, and having the appearance of 'a purse drawn tightly and puckered with the strings tied around it.'

The great dilatation of the bowel at its lower end

dipped down below the level of the stricture in the form of a dependent sac, and in it was an opening about an inch in diameter. From this opening issued a fluid the same as that diffused through the abdomen. The rectum below the stricture was no more than the size of a child's intestine, and upon it, close to the stricture, was an ulcerated surface, with a narrow opening, to which the edges of the aperture above the stricture had been adherent. A new communication, but an imperfect one, had thus been established between the two parts of the gut—severed one from the other by the stricture. But the connexion had given way, doubtless in consequence of the violence of the expulsive efforts, and thus the contents of the bowel had escaped a short time before death.

The mucous lining of the gut above the obstruction was healthy, but below this the membrane was reddened—evidently the effect of the stimulating injections.

The most noteworthy circumstances of the foregoing case were the long continuance of disease : the well-marked depressing effect of constipation : the completeness of the obliteration of the canal, and the near approach to its restoration by a new passage.

Though the circumstance is unconnected with our present object, it may be mentioned that an aneurism was in this case found at the point of the left ventricle of the heart. The tumour was the

size of a small egg, and the pericardium was adherent to it. Upon inquiry of his family, it turned out that, about two or three years before his death, Talma had felt suddenly a severe sense of heat over the heart after great efforts made in playing Hamlet [dans le rôle si pénible d'Hamlet], and a feeling of discomfort continued for a couple of days afterwards. Since then, too, he had been subject to palpitation, especially on the days that he appeared upon the stage.

We shall now enter upon the practical questions which the cases suggest. First, as to the nature of the stricture: An adequate knowledge of this subject is to be gained from the dissection of the part at the earliest periods of its formation, as well as in the advanced stages of the complaint which are illustrated in the cases above narrated. But it is manifest that an opportunity to investigate in this way the morbid alterations at an early period is not to be obtained except where death has resulted from causes unconnected with the disease of the rectum. An example or two will be enough for our purpose. The preparations to which I shall direct your attention are either in the Anatomical Museum of the College, or in the Museum of the College of Surgeons.*

* For convenience of reference the histories of the preparations will be numbered continuously with the ordinary cases.

Stricture of the Rectum in an early stage.—Disease of the Urinary Organs and Subperitoneal Abscess.

Case 62.—Besides the disease of the rectum, there was here enlarged prostate gland, with thickened urinary bladder, and abscess under the peritoneum; and to the diseased condition of the urinary organs the death of the person seems to have been owing.

The stricture of the rectum is about two inches from the orifice of the bowel. It admits easily the passage of a full-sized finger. The gut is considerably thicker at the stricture and above it than elsewhere. The mucous membrane is corrugated; and at the seat of the stricture it is thrown into folds, but does not seem to have undergone any other change. The muscular bundles are much coarser opposite the stricture than elsewhere.

In this case the fibrinous matter occasioning the stricture was deposited in the submucous tissue, and in that between the bundles of the muscular fibres.*

Case 63.—The canal of the rectum, about an inch from the margin of the anus, is suddenly reduced to half an inch in diameter. The stricture is annular and deep, the mucous membrane seeming to be thrown into a fold.

The fibrinous deposit is in the submucous fibro-

* The preparation is in the Museum of the College.

cellular coat of the bowel, and in a degree also in the muscular structure, which is thickened at one point.

The mucous membrane is healthy at the seat of the stricture, so likewise is it above the constriction; but below it the membrane is rough—partially ulcerated or excoriated. The tissues around the contracted part are not manifestly diseased. There are several hæmorrhoids at the margin of the anus.*

Case 64.—Immediately above the anus the canal of the rectum is suddenly and irregularly contracted to half an inch in diameter. Above the contraction the gut is dilated. There is no apparent change in the mucous membrane. The muscular coat is much thickened at the seat of contraction by fibrinous deposit; and this apparently was the cause of the stricture. The tissues around the bowel appear rather indurated and confused.†

The idiopathic stricture of the rectum, it will be inferred from the foregoing facts, is occasioned by fibrinous matter effused within the walls of the intestine or upon its surface. When interstitial, the effused matter is found in the submucous fibro-cellular structure, or in the intervals between the muscular bundles (cases 62, 64). Its thickness is

* The preparation is in the Museum of the College of Surgeons, No 1253.—The account given of this and the other preparations in that Museum, which are here referred to, has been taken in part from the Catalogue, but in part also is the result of recent examination by Mr. Quekett and myself.

† Museum of the College of Surgeons, No. 1256.

greatest when outside the bowel (case 60). The narrowing of the calibre of the gut, however, is the result, not of the bulk of the new deposit, but of the property it has of contracting. The morbid change, in one instance, involves the whole thickness of the intestine; in another, only a portion of it. Commonly, the fibrinous exudation affects the entire circumference of the bowel; occasionally, a part only. Of the latter condition I have seen but a single example.*

The mucous membrane is not necessarily involved in the disease. It is but consecutively affected. In one of our cases it was healthy all over, but folded by the contraction outside it (case 62); in another it was sound at the seat of stricture, though ulcerated below that part (case 63); while the membrane in a third case was ulcerated within the grasp of the stricture as well as above and below it (case 60).

The breadth of the strictured part varies considerably. Thus, it is narrow and deep, seeming as if a string had been tied around the gut (case 60); it measures half an inch,† and may extend to as

* In a case of fatal obstruction observed by Mr. Avery, the stricture, which was fourteen inches from the anus, is thus described :—'The narrowing, which was about an inch in extent and just admitted a number 12 sound [urethral?] was caused by a firm thickening of the coats of the bowel, more particularly the muscular and cellular coats; and the thickening occupied principally one side of the tube, as part of the bowel was nearly in a natural state.'—'Report [third] of Proceedings of the Pathological Society of London,' page 65.

† The length in preparation 1254, in the Museum of the College of Surgeons.

much as two inches. The thickening which is found to involve several inches of the bowel, might be regarded as a long stricture, but it will probably be most convenient to notice it separately, but as a closely allied disease.

Most frequently the stricture is not more than two inches from the anus (cases 62, 63, 64); but it may be formed at any part of the rectum. In cases 60, 61, it was found to be opposite the margin of the pelvis, and therefore altogether out of reach for examination by the surgeon, while it occupied an intervening position between these extremes in case 59.

The bowel above the disease is unaltered, while the contraction is in its earliest stages; but at a later period, when the narrowing has become such as to interfere with the passage of the fæcal matter, this part becomes enlarged from distension. The distended gut is at the same time elongated and bent (case 60), so that the large intestine may be found to occupy the whole abdomen, covering the other organs. Immediately above the contraction there is also more or less hypertrophy of the muscular fibres, occasioned doubtless by the straining action to overcome the obstruction; and the mucous membrane becomes ulcerated in the same place, but this change is confined to a small space in the immediate neighbourhood of the stricture (case 60).

Below the stricture the bowel is frequently, but by no means invariably narrowed, apparently on account of the imperfect performance of its function.

In one instance this part was inflamed as well as narrowed, probably by irritants employed in enemas (case 61).

Morbid action is occasionally propagated from the diseased bowel, to the tissues in its neighbourhood (case 64). General thickening, abscess, and fistula, are the results. But in my observation, fistula has only occurred where the stricture was near the lower end of the bowel. The rectum towards its upper end being isolated from the neighbouring structures both by its position and the arrangement of the peritoneum, the natural conformation of the part does not lend itself, so to say, to the production of purulent deposits at the side of the bowel. On the other hand, it is at the upper part that the rupture of the rectum is attended with speedily fatal consequences, on account of the effusion of its contents into the general peritoneal cavity (case 61); while the fæcal matter may find its way to the surface from the lower portion of the gut through the fistulous openings alluded to.

The fistula brought on by stricture opens upon the skin near the anus, or, as it not unfrequently happens, penetrates widely to the nates. It is curious to observe that the comparatively trifling secondary complaint is now and then the only one of which the patient is aware. I have several times been applied to to treat a fistula when the original and principal disease was a narrow stricture.

In some cases the folds of skin about the anus are

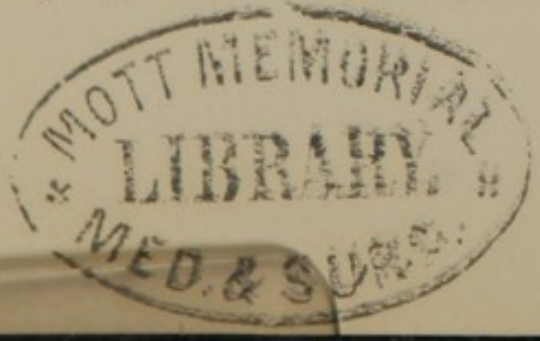
found swollen—œdematous, or more firm—condylomatous, and from fibrinous rather than serous effusion. I have only seen this condition of the skin where the stricture was close to the lower end of the gut. It seems to me to be ascribable to obstruction of the large veins (plate 3) by the deposit constituting the stricture.

From the constriction which accompanies cancerous diseases of the same part, the fibrinous stricture is distinguishable by its comparative smoothness—the absence of the irregular prominences and the deep ulceration noticeable in cancer, as well as by the freedom from the severe pain and the cachexia which often belong to that disease.

The starting point of the stricture is, in some instances, an inflammatory attack of the large intestine (case 59), but we now and then fail to trace its origin to that or any other exciting cause (case 58). The first change which ordinarily attracts the patient's attention is a difficulty in the action of the bowels (cases 59, 61), but that condition so often occurs without organic disease, that it gives rise to no apprehension unless it should amount to actual obstruction. In one remarkable instance the bowels acted with regularity, until complete obstruction arose (case 60). The difficulty in the evacuation is accompanied with an alteration in the appearance of the fæcal substance, which is much diminished in size and sometimes flattened. But though these changes accompany the stricture, they are not in

themselves proofs of the presence of that disease. For the difficulty adverted to, or even the complete obstruction, may arise from other forms of mechanical impediment besides that occasioned by organic change of the intestine itself. So likewise the fæcal matter may be altered in size and appearance, though the structure of the bowel remains unaltered.—See the observations on 'Spasmodic contraction.' In short, there is no positive sign of the existence of stricture of the rectum but that which is gained by the touch through the gut. The combination, indeed, of certain conditions, as, for instance, distension of the colon continued to the left side of the pelvis: freedom from the pain to pressure which attends on other diseases of the intestines, such as internal strangulation or intussusception: the absence of tumour: the immediate return of enemas and the stoppage of a tube passed up the rectum at a height not exceeding seven or eight inches: rolling movements or contractions of the intestines descending to the left iliac region:—the presence of such circumstances in connexion with obstruction of the alvine evacuations and diminution previously ascertained of the size of the fæcal substance, would lead to a strong presumption of the presence of stricture at the upper end of the rectum. Still, however, the evidence would not be complete.

As the disease advances—we shall suppose its existence to be fully made out—the symptoms increase in urgency. The mucous membrane is



inflamed and ulcerated; a mucous or mucopurulent secretion is discharged, sometimes alone, sometimes with a small quantity of fæcal matter; and the discharge, though small in quantity, is usually often repeated (case 58), and forcibly ejected. It is mentioned in the report of case 57, that when a red-looking point of the mucous membrane of the bowel was touched, there was instantly the sense of a want to evacuate. This fact will explain why it is that the secretion formed by the inflamed membrane is so frequently and urgently voided. The membrane, unnaturally sensitive, is irritated by its own secretion, and through reflex nerve-influence an expulsive action is brought on. In process of time blood is blended with the puriform discharge, but occasionally it is discovered at an early period of the disease.

Flatulency and eructations are frequent and troublesome accompaniments of the disease. Some patients are much distressed with pain over the sacrum. This complication appears to be immediately connected with ulceration of the bowel and the diseased secretion from it. One patient felt very acute sacral pain when the discharge was about to come on, that is to say, when the ulcerated part was in a state of inflammation (case 58). In this instance the pain and discharge were intermittent. They occurred for a couple of days, and then were absent as long. Let it, however, be understood, that ulceration and the puriform or sanguineous discharge may be present without any of the pain

adverted to being complained of. Of this I have seen repeated instances.

At length, with the train of depressing circumstances that have been described, with namely tenesmus, with frequently recurring discharges from the intestine and from also, perhaps, fistulæ burrowing in the nates, with pain and gradually increasing interruption to the action of the bowels, the health is much depressed. It may be that after a long lapse of time, complete obstruction shall arise (case 61), or — but this rarely happens — the obstruction occurs rapidly and without premonitory symptoms. There was not, you will remember, any difficulty as regards the evacuations in case 60 till the complete and fatal obstruction arose. We should not omit to notice here a small class of cases in which a foreign body arrested by the stricture has been a source of difficulty (case 58), or has even caused fatal obstruction.—See further on cases of foreign bodies arrested in the bowel. Such is an outline of events as they occur when the stricture continues to advance unchecked by medical management. We shall now advert to the means by which the disease may best be treated, with a view, if not always to its entire removal, at least to its amelioration or the arrest of its progress.

In treating the stricture I am not disposed to regard local applications as the only or the chief resource. If the eye, or a serous membrane, or the testis be affected with fibrinous deposit, medicinal

treatment is by universal assent resorted to; and if the judicious use of certain medicines be useful in such cases—and it undeniably often is so—why should the fibrinous deposit in the bowel be considered to be necessarily beyond the reach of similar means? There is, indeed, one circumstance which takes largely from the expectation of a favourable result from constitutional treatment in this complaint, it is the length of time the malady lasts in many cases before its existence is known even to the patient. When disease, in material amount, affects a vital organ, for example the lung or kidney, the function being constantly in action and its due exercise being necessary for the health and comfort of the person, the beginning of organic disease is soon felt and relief is sought; but inasmuch as the function of the rectum is performed only at considerable intervals, and it is but little impeded by a small amount of the organic change which results in stricture, at the same time that an impediment to the function is liable to be attributed to mere sluggishness of the action of the bowels, which commonly occurs altogether independently of any obvious alteration of structure, for these reasons, the stricture is often in an advanced stage before the real nature of the complaint is suspected, and before, therefore, a suitable plan of treatment can be adopted. Still, with every fair abatement on this score, I attach much importance to the use of certain remedies originally suggested in this disease by the knowledge

of their value in promoting the removal of fibrinous deposits elsewhere. The remedies I allude to are mercurials in small doses, potash, and the salts of iodine,—the medicine to be administered being, of course, determined by the condition and temperament of the patient. I would add, that in this, no less than in several other seemingly local complaints, those means which tend to improve the general health exercise a very beneficial influence. This I have frequently observed.

The local treatment, likewise, is undertaken with a view to promote the absorption of the deposit occasioning the stricture. The principle is, in fact, the same as that which controls the ordinary treatment of stricture of the urethra. It is by means of pressure from within that the object is attained; and the instrument in use for effecting it is the bougie, which you will find with the instrument makers, constructed of various materials—wax-composition, gum-elastic, ivory, and iron, the metal being polished or plated. The instruments that I am in the habit of using are the wax-composition and gum-elastic bougies, and a membranous tube for fluid pressure. The tube may be distended with air or water: with the latter a considerable amount of pressure may be attained. The apparatus is the same as that devised by Dr. Arnott* many years ago, and used for the urethra by Mr. J. Arnott.† For the convenience of

* 'The Elements of Physics, by Neil Arnott, M.D.'

† 'Treatise on Stricture of the Urethra, by James Arnott.'

its introduction when the stricture is at some distance from the orifice of the bowel, I have had constructed a bougie which receives and retains any curve given to it, at the same time that the bend admits of being varied with slight lateral pressure. The greater part of this instrument—what might be called its stem—is not thicker than a full-sized urethral bougie, while the remainder, to the length of from three to four inches, is enlarged; and it is this part which is graduated in sizes in the ordinary way. The stem being small, and equally so in the bougies of various sizes, that part does not give inconvenience by its bulk at the orifice of the bowel. The objects here mentioned have been attained by the addition of a slender rod of flexible metal to the ordinary materials of the gum-elastic instrument—in its interior. I have had the stem of the tubular apparatus constructed in the same way.

As it has been stated respecting constitutional treatment, so is it to be said of the bougie,—its use is most beneficial in the early stages of the disease. When ulceration of the mucous membrane has taken place, the application of mild astringent or stimulating substances—for instance, a weak solution of nitrate of silver, or acetate of lead—is advantageous. Such applications will be varied according to circumstances.

Let it be remembered that it is not possible to pass the bougie advantageously for the removal of

disease, except in the lower half of the rectum. For, as there is a want of certainty respecting the diagnosis of the disease, when it is beyond the reach of the finger (ante, p. 213), a stricture may be supposed to exist where there is none. I have known repeated instances in which the bougie had been passed at short intervals during a considerable time for supposed or imputed stricture, where none had ever existed.* It is not to be assumed because the instrument meets with obstruction that there is therefore disease of the bowel. Efficient obstruction to the passage of a bougie will arise—has arisen again and again — from the point of the instrument impinging on the sacrum.† But much worse consequences than the unnecessary introduction of

* A medical practitioner under the care of Dr. Burne for 'a breaking up of the constitution,' was persuaded by 'a surgeon' that his ailments were caused by stricture of the rectum, though 'his bowels acted regularly every day;' and contrary to the advice of his physician, he submitted to treatment with a bougie, but soon gave it up convinced of its uselessness. In the dissection of the body, which was made not long after, 'no stricture nor trace of stricture could be discovered either in the rectum, colon, or intestinal canal.'—'A Treatise on the Causes and Consequences of Habitual Constipation, by John Burne, M.D.,' page 149.

† Mr. Syme mentions the case of an elderly lady who had been subjected to treatment for supposed stricture of the rectum during several years, by two practitioners of respectability in Edinburgh. The patient dying, an examination was made, and 'not the slightest trace of contraction could be found in the rectum or in any other part of the intestinal canal.' One of the gentlemen who had attended the patient, desirous to ascertain the cause of the obstruction which he had met with, 'introduced a bougie as he was wont to do, and found that upon arrival at the depth it used to reach, its point rested on the promontory of the sacrum.'—'The Diseases of the Rectum, by James Syme.'

an instrument have been known to follow from the improper use of the bougie. Cases are recorded in which the bowel was perforated with a fatal result, though, as proved by dissection, it was free from disease.*

I have hitherto used incision only to a small extent, and in aid of the bougie. Free division of the stricture is objectionable on account of the probability of copious hæmorrhage difficult to restrain, and the probability, also, of the operation being followed by fæcal abcess. But I have resorted to it with advantage where the stricture was near the anus and accompanied with a fistula opening above the stricture, the fistula and the stricture being divided with one incision. Escharotics I regard as altogether inadmissible in the treatment of stricture of the rectum. Applications which would properly be so designated, proved injurious in case 59, having induced severe abdominal inflammation without effecting any local benefit whatever. Moreover,

* Dr. Roots was called to a case 'in articulo mortis,' which had for some time been under treatment with the bougie by the surgeon alluded to in connection with Dr. Burne's case mentioned in a previous note. The surgeon stated that having been engaged the evening before in dilating a stricture, and not succeeding as usual, on account of spasm of the gut, 'he persevered, when suddenly the patient complained of violent pain and soon afterwards became alarmingly ill.'—Death soon occurring, the body was examined. 'A lacerated perforation of the rectum was discovered. Peritonitis had been induced. There was no stricture.' —Dr. Burne's work before cited, page 150. See also a paper by Mr. Travers 'On the Local Diseases termed Malignant,' in 'Med. Chirurg. Trans.', vol. xvii., page 358.

independently of mischief of the kind adverted to, supposing that an eschar were produced, the result could scarcely fail to be prejudicial, inasmuch as the contraction of cicatrisation would in the sequel be added to the original stricture.

CONCENTRIC THICKENING AND ULCERATION OF THE RECTUM.

From the most extensive of the strictures included in the foregoing Lecture the transition is a short one to the class of cases which range themselves under this heading. The difference between them indeed is one of degree more than of kind, except that the concentric thickening of the bowel probably has its starting point in disease of the mucous membrane, whereas that membrane is consecutively diseased in the stricture:—at least the chief disease in the latter occurs after the stricture has been formed,—see p. 209. But in their advanced stages, ulceration of the mucous membrane is common to both diseases. In such circumstances the notice of the complaint which remains to be treated of here, may be brief; for, with the fibrous stricture fully illustrated on the one hand, and cancerous disease on the other, little more than its marking characters require consideration.

Case 65.—The preparation before you exhibits the characteristic appearances of the disease which I venture to distinguish as 'concentric thickening with ulceration.' At the distance of two inches and a half from its orifice, the bowel is suddenly thick-

ened, and the thickened part stands prominently inwards, so as in a great measure to fill up the hollow of the gut. The calibre of the diseased bowel is narrowed to a very small canal. This condition extends three inches upwards. The thickness of the diseased wall of the intestine measures three-fourths of an inch, but it decreases somewhat upwards, so that the greatest narrowing is at the lower end, where the point of the finger barely enters the stricture. (The reverse of this arrangement often prevails, the greatest contraction being above.) The fibrous and muscular structures both partake in the thickening. The whole is dense and hard to the feel. Yet it is uniformly fibrous, i. e. stringy and free from lumpiness—free from the accumulation of morbid deposit at any point. The mucous membrane is ulcerated away from the whole of the diseased intestine.—I would now notice shortly examples of more extended disease. Thus:

a.—The surrounding cellular membrane is often thickened and consolidated with the bowel. I have seen the condensed mass close to a deep ulcer, measure nearly two inches in thickness.

b. c.—A preparation in the Museum of the College of Surgeons exhibits a portion of the anterior wall of the rectum completely removed by ulceration, the escape of the contents of the bowel being prevented by the adhesion of the margin of the chasm to the urinary bladder; while another preparation in the same museum shows a communication established

between the bowel and the bladder by small ulcerated openings.

d.—A singular addition to the thickened state of the rectum is exemplified in the drawing in M. Cruveilhier's work:*—The inner surface of the bowel presents a large number of holes of very various size, disseminated over it for several inches. They are the openings of short cæcal cavities hollowed in the sides of the gut, but few projecting in any degree beyond the level of the outer surface of its thickened coats. At the lower end some small ones open into the vagina. The disease of the rectum in this instance seemed to have originated in a fall upon the nates.

The series of changes of structure which have been indicated might be briefly stated as follows:—Concentric thickening of the fibro-cellular and the muscular coats of the bowel: the surrounding cellular tissue in advanced cases involved in the consolidation of the gut: associated with the thickening, probably preceding it, ulceration of the mucous membrane, occasionally of the fibrous coat as well, and more seldom and partially of the muscular structure likewise: ulceration, but this is very rare, extending beyond the intestine and opening a passage into the urinary bladder or the vagina. These changes are the result of two opposite pro-

* 'Anatomie Pathologique,' liv. 33, pl. 1.

cesses, viz., an addition by the deposit of fibrinous matter, and the removal of tissues by ulceration.

Concurrently with the foregoing morbid alterations, the bowel above the disease becomes dilated from distension with the fæcal matter and air; and it is at the same time hypertrophied from excessive action to overcome the resistance of the stricture. The mucous membrane about the upper orifice of the constriction is now and then seen to be gathered into small folds,—plaited, so as in a measure to obstruct the aperture.

With any form or degree of the disease the symptoms are distressing, and they increase in severity as the morbid changes of the bowel advance. In one case there is constipation, in another diarrhœa, or a mixture of the two—frequent small evacuations of fæcal matter in a fluid state with retention of the more solid part. When figured, the fæcal substance is diminished from the natural thickness. To such disturbances of the fæcal evacuations, are often added discharges of mucous or puriform matter and blood; and urgent tenesmus becomes a source of much misery. As in other forms of stricture of the bowel the constipation increases; the colon is distended with fæces and air; and the hindrance to the evacuations may increase even to complete obstruction.

At the same time, there is, as the immediate result of the organic change, pain in the bowel, in the pelvis, and usually in the lower part of the back.

Gradually emaciation creeps on; but even under several of the distressing circumstances that have been alluded to some patients continue to have a fair share of general health, except in so far as increasing depression is concerned, until mere exhaustion supervenes, or entire obstruction of the bowel has been established.

The management of a case of this disease will require the same attention to diet, the same means of unloading the bowels, and the same means of relieving pain that are mentioned in connection with other kinds of stricture. In addition to such remedies, advantage is in some cases gained in the early stages of the complaint from the removal of small quantities of blood locally—from the perineum or over the sacrum; and a mild alterative, as hydrargyrus cum cretâ with Dover's powder, in small doses, is often useful.

The local means I have used with benefit were tents coated with oxide of zinc, with hydrargyrus cum cretâ or hydrargyri chloridum in small quantities. These are applied as a lotion or cerate. The tent is intended, in addition to its making a slight dilating pressure, to absorb from the ulcerated part the unhealthy secretion, which in itself exercises an injurious influence by irritating if not eroding the surface, at the same time that it excites a frequent 'nisus' to evacuate. Under the careful and continued use of such applications the thickening of the bowel is often diminished. I apprehend that the improve-

ment which takes place is owing to real absorption, and in a degree likewise to diminution of that contraction of the muscular coat of the bowel, which is occasioned by the ichorous secretion. It is to be understood that the local applications are most beneficially used when the disease is within reach, i.e. in the lower part of the rectum.

Should the alvine evacuations come to be altogether obstructed, it would be right to relieve the patient by the formation of an artificial opening in the left colon in the lumbar region, but only, of course, after the trial of proper means to relieve the obstruction ineffectually made.

TUBERCULATED DISEASE OF THE RECTUM.

Of the rare disease of the rectum which may be so designated, I shall adduce two instances to exemplify an early and a late stage of its growth.

Case 66.—A gentleman of active habits and in good health, aged about 25 years, observed, three years before I saw him, some blood on the fæcal evacuation, and often afterwards a discharge of blood and mucus in small quantity. The fæces continued to be natural, except a slight change of form, which, however, had passed away. There was no pain during the evacuations, or at any other period.

About the time that I saw him, a small swelling was formed between the anus and the tuber ischii. On examination, I found within the bowel, near the orifice and extending upwards more than an inch, a series of small pea-like tubercles. They were smooth and firm to the feel. The largest amount of the disease was behind. And here at the upper end of the morbid part there was more thickening than elsewhere; there was formed a semilunar projection a little prominent from below, and felt to be more distinctly so from above when the finger was passed beyond the disease, and hooked downwards upon it. This projection I regard as the commencement of a

stricture. Between the tubercles, the surface of the mucous membrane was ulcerated in parts.

The patient did not suffer any inconvenience from the state of the bowel; but he felt some annoyance from the little abscess. It was opened. Subsequently the fistula was divided by another surgeon at a distance from London, and then it healed slowly. Now, at the distance of nearly five years from the time at which the bleeding took place, this gentleman is in good health. From the bowel he feels but very little uneasiness, and that but occasionally.

Case 67.—A patient, Mrs. L., a very spare, pale, and delicate-looking person, who applied to me in 1851 on account of fistulæ, stated that, five years previously, a very painful lump which had formed near the anus, burst after a time, and has not since healed. Two other similar swellings subsequently followed the same course, and a fistula remains from each. The cutaneous orifices of the fistulæ are at different distances from the anus—one at a very short interval, the others much more remote, in the nates.

In the rectum, at the height of an inch and a half there was a stricture which allowed the end of the finger to enter, and below it were several rounded excrescences, with a little intervening ulceration.

I have lately seen this patient with her medical attendant, Dr. Samuel Richards. She is improved exceedingly in appearance, has gained flesh, and has

a feeling of good health. The local disease of the bowel had been ameliorated while she remained under treatment. She has felt so well, however, for a long time that she has been unwilling to submit to a continuance of it. The stricture continues, but it is not quite so narrow as when I first made an examination.

This person regulates her diet very carefully. It consists in good part of meat.

The tubercles* or excrescences upon the surface—the distinctive character of the disease—are, according to my experience, most manifest before the stricture has been formed. They are rounded, smooth, hard to the feel, seldom pedunculated, and they vary from the size of a pea to that of a small bean. There is not, in my opinion, anything of a cancerous nature in their structure, and the length of time the disease has been known to last points to the same conclusion. But it should be added that I have not yet had an opportunity to examine the growths out of the body. The discharge of blood, which accompanies this disease and occurs even at an early period, proceeds doubtless from the ulcerated mucous membrane.

In the cases I have hitherto met with, one or

* The words 'tubercle' and 'tuberculated' are here used to indicate the prominence and small size of the growths,—not to denote a morbid deposit of peculiar nature, with which the adjectives 'tuberculous' and 'tubercular' are, I believe, connected by common use.

more fistulæ were soon formed. This complication was owing here, as I believe it to be in some other diseases of the rectum, to the circumstance that the lower part of the bowel was the seat of the morbid change.

The general health is commonly but little affected. Unless where the disease leads to the formation of stricture accompanied with obstruction to the evacuations, the greatest annoyance the patient suffers is that occasioned by the fistulæ. The complaint is by no means rapid in its progress, even when left to itself. With proper management life may, I believe, fall little short of its natural duration. Respecting the treatment, without entering into details or repeating what is set forth elsewhere, I would say, that in the earlier stages the management mentioned for Concentric thickening of the gut is required, and that when the calibre of the bowel is materially narrowed, the means recommended for Stricture are applicable.*

* An example of the tuberculated disease seems to have been observed by Valsalva, and by him communicated to Morgagni, who has recorded it in the treatise, 'De Sedibus et Causis Morborum,' &c.—see Cooke's translation, vol. ii. p. 104. Desault mentions what appears to have been the same disease under the name 'Squirrhosités du Rectum,' in his 'Œuvres Chirurgicales,' 3e éd. t. ii. A complaint apparently of the same nature is mentioned by Sir B. Brodie, as having been observed by him 'chiefly in women, and especially in those who had borne children.'—'Medical Gazette,' vol. 16, p. 236.

CANCER.

The rectum is often the primary seat of cancer,* and the morbid growth not unfrequently extends to it from the uterus. The latter form of the disease, that derived from the neighbouring organ in the female, will not be included in these observations.

The order in which the subject will be treated of, is as follows :—I propose

1st. To bring together cases to illustrate the symptoms and the progress of the disease ;

2ndly. To adduce examples of the morbid alteration in different stages of its growth, as shown in dissection. And then will follow—

3rdly. Those general conclusions which the facts previously narrated, and my general experience, have suggested.

I. CASES ILLUSTRATIVE OF THE SYMPTOMS AND PROGRESS OF THE DISEASE.

Cancer at the posterior and lateral part of the Rectum.

Case 68.—Edward J., aged 44 [Hospital Case-

* 'Rectal cancer furnishes 221 of 8289 deaths recorded in the Paris registers,—a proportion assigning it the fifth place among fatal cancerous diseases.'—'The Nature and Treatment of Cancer, by Walter H. Walshe, M.D.', p. 298 ; London, 1846.

book, No. 9], about twelve months before his admission, having previously been in good health, became affected with diarrhœa, which continued more or less for six months; and during the latter part of this time blood was occasionally mixed with the fæcal matter. This illness was attended with severe pain at times in the lower bowel and in the hip. After the diarrhœa had ceased, constipation became troublesome.

At the time of his admission to the hospital this person had a sallow leaden hue in the face, and a yellowish tinge of the eyes, with a look of anxiety or of pain. He stated that during his illness he had fallen off much in flesh. Indeed, his clothes hung loosely about him. In the rectum at the back part and the right side, large and prominent indurations were felt. The disease was near the anus. Its extent was not considerable, the mucous membrane being felt with its natural smoothness and softness beyond. Some of the folds of the integument around the anus were thickened by deposits within them; and one larger than the rest had a triangular or cock's-comb shape. The term condylomata might be used to designate these projections.

For some days before the patient's coming to the hospital there had been no fæcal evacuation; but blood now passed away at intervals to the extent of about a quarter of an ounce at a time—about an ounce and a half in the course of a day. In the progress of the case, while the patient remained

under management in the hospital, the fæcal evacuations were attended with but slight uneasiness, and they were voided without straining effort. When consistent the fæcal matter was found to be but little diminished from the natural thickness. There were frequently uneasy sensations independently of the action of the bowels, and sleep was often interrupted by pain shooting through the rectum.

This person became much improved in his general condition, and was rendered 'comfortable,' to use his own expression; insomuch, that after having been under treatment about a month, he left the hospital by his own desire, to return to his usual occupation.

Cancer of the Rectum at its anterior part.—Hæmorrhage.—Dysuria.—Lung Disease.

Case 69.—Michael C., aged 40, had originally good health, and his family was generally healthy. The report made of his case runs as follows: Three years ago he caught cold at his occupation, which was that of blowing a fan in an iron-foundry; and he has since then been feeble, having, as he states, at times, severe cough, and continued hoarseness.

First noticed blood to escape from his bowels about three years ago. It was passed only with the evacuations, and, from the time mentioned, every evacuation has been attended with a discharge of blood. In the last nine months there has been bleeding at other times as well. He does not know

to what extent he has lost blood on those occasions, but it was ascertained after his admission to the hospital that about two ounces were voided in one day, in quantities of a couple of drachms at a time. Natural fæcal evacuations occur twice a-day. The discharges of blood have been much more frequent; they have happened as often as twelve times in the same period.

The patient does not feel, he has not at any time felt, pain over the sacrum. For many months, however, he has had pain at the right side of the anus, at the margin of the gluteal fold on the same side and down the back of the thigh. In sitting he has been compelled to lean to the left side.

The examination of the rectum gives rise to pain, probably on account of some excoriation which exists at its back part. Within an inch of the orifice the finger meets with a prominent and smooth projection at the fore part of the bowel; and a mass of disease which is lumpy and apparently ulcerated, extends upwards nearly as far as the finger can be made to reach. But with the point of the finger the mucous membrane is felt smooth and healthy beyond the diseased part. To the extent mentioned the morbid structure occupies the gut at the anterior aspect, and extends for some way on its sides. Behind there is no disease.

The general health of this person is much impaired. He has lost flesh largely. He has cough, and the expectorated matter is abundant and tinged with

blood. There is dulness on percussion being made over the upper part of the chest on the left side.

The fæces passed in two days after the patient's admission to the hospital were covered with blood and puriform matter, and the evacuation was attended with much pain. At other times also, there were discharges of blood and muco-purulent fluid.

The patient suffered at intervals from dysury. He first had difficulty in voiding urine about two months ago, and the difficulty has gradually increased, insomuch that he has had to strain for some minutes before any urine passed. When he had been a few days in the hospital he suffered from complete retention, which was relieved with the catheter. There was no obstruction to the passage of the instrument. The necessity for its use did not continue.

After this person had been a month in the hospital the disease of the rectum was found to have extended downwards, so as to be within about a quarter of an inch of the anus, and it had spread further laterally also, but the finger still reached the sound structure beyond it. The mass felt more lumpy and prominent than at the first examination. Still the general state and feeling of the patient were improved. He had gained strength. The distress referrible to the rectum was relieved; the bleeding from the bowel was arrested; and the pectoral symptoms had subsided. In short, he felt so well that he left the

hospital to enter into some agricultural employment.

As regards the treatment of the case, it may be briefly said that, in addition to the general management applicable to all such complaints to be afterwards noticed, most benefit seemed to be derived from the administration of gallic acid and hydrochlorate of morphia.

The two foregoing cases are examples of the disease in a comparatively early stage of its growth; we shall now take up others illustrative of its further progress—cases exhibiting some of the characters and effects of the disease when it extends to the surface, involving the anus and the sphincters, and when neighbouring organs, the vagina and the urinary bladder, are affected.

Disease extended from the Rectum to the Anus.

Case 70.—M. F., aged 38, a large person of full habit, with pale skin and gray hair. About six months before was in good health; but had been always slow in the action of the bowels, insomuch that it was his habit to take a book with him to the water closet. Often had to strain much in the evacuation. Observed some blood with the motion for the first time five months ago. The discharge of blood with the fæcal evacuations afterwards went on to be so free as to have rendered him weak.

Lately, however, the bleeding has in a good measure ceased.

This patient's greatest suffering arises from difficulty in unloading his bowels, and the inability to control the escape of air or fluid. The evacuation is scanty, often repeated, and attended with pain. Fluid fæces escape involuntarily; and matter tinged with blood, said to resemble treacle in appearance, is often voided also involuntarily. The pain he suffers is assigned to the rectum with its immediate neighbourhood.

He is obliged when in the sitting posture to incline to one or the other hip, or to sit upon two chairs placed a little apart, so as to avoid pressure towards the disease; and he has much difficulty in walking. Lying down is his position of rest. Singularly enough it happened at an after-period that this patient's brain being affected, causing aberration of mind for a time, he then walked and sat on a chair as in health.

The passage of urine is generally more or less difficult, and requires change of position to effect it. It is commonly accompanied with the involuntary evacuation of fæces.

The morbid condition of the bowel when I first saw the patient was briefly as follows.—At one side of the anus was a thin triangular fold of integument, projecting more than an inch, of vivid red colour, and hard to the feel. This is said to have been a mere fold of natural skin some time before. The

interior of the rectum from the anus upwards was indurated and uneven, the morbid deposit encroaching on the cavity of the gut; but beyond this the mucous membrane was felt in a healthy state. The surface of the diseased part was covered with puriform fluid of dark brown colour. At a later period the triangular fold at the anus was much enlarged. It assumed a brawny appearance, with nearly the natural colour of the skin, and was ulcerated on its inner surface. Some relief was afforded by its removal.

In this case the projection of the morbid growth into the bowel, and the destruction of the controlling power of the sphincter, occasioned the most distressing of the symptoms.

Cancer of the Rectum.—Fistulæ.—An aperture communicating between the bowel and the Vagina.

Case 71.—M. H., aged 32, female, is married, but has had no child; became a patient of the hospital in December 1851. From childhood has suffered from constipation. About a year and a half before her coming to the hospital she was attacked with diarrhœa, which lasted only a single day, but was very severe. On the day following and subsequently a dark yellow discharge [puriform matter mixed with blood] was passed from the bowel to the extent, she believes, of half a pint daily. A discharge of the same kind continued more or less up to the time she came to the hospital. Soon after the

appearance of the discharge the patient began to feel pain about the bowel, and since then the pain has been constant, with only short occasional remissions, and very acute. She has also had, all along, pain in the lower part of the back, over the sacrum.

The lower end of the rectum was found to be nearly closed with prominences of large size—lumpy and indurated. The use of opium was necessary for the relief of pain; and at that time, as well as in the after-progress of the case, the same medicine afforded much comfort to the patient.

At a subsequent period she complained that small quantities of fæcal matter as well as a puriform fluid passed involuntarily while she walked. Fistulæ were now formed, a large one opening upon the back part of the nates. Fæces at this time passed by the vulva, some also through the large fistula, and a portion by the anus; and considerable relief was afforded apparently by the greater freedom of their passage gained by the communication with the vagina.

At a later period this patient had for some days complete obstruction, which ended in, what from the account I received of it seemed, the separation of a slough from the interior of the bowel. This was followed by copious evacuations of fæcal matter.

Since she first came under my observation this person's health has repeatedly undergone alternations of depression and improvement. At first she

was anæmic and anxious-looking, then for a time, being relieved from pain, and with the aid of rest in the horizontal position as well as some management dietetic and medicinal, her strength and aspect were much improved. She even gained flesh. Lately, the general condition was that of a person in delicate health, but free from suffering and feebleness. There was a discharge of healthy pus from the rectum. The bowels acted well and the evacuation caused comparatively but little pain.*

Now (Sept. 1855) her chief annoyance arises from the fistulæ, which give passage to fluid fæcal matter as well as pus.

Communication between the Rectum and the Urinary Bladder.

Case 72.—H. W., aged 44, received into the Hospital in September 1855, on account of disease of the rectum, [Hospital Male Case-book, No. 23.] He is a feeble person of spare habit, with dark complexion and anxious countenance. Admits that he 'drank hard' at one time, until about five years ago, when he had a paralytic seizure—hemiplegia affecting the left side. The use of his limbs he recovered fully, but his articulation is still slightly impaired. He says that if spoken to sharply, he cannot refrain from shedding tears.

About twelve months ago he noticed a lump about

* Since she left the Hospital, this person has been under the care of Dr. Tanner, with whom I have seen her.

the anus, and since then he has had frequent action of the bowels, three or four evacuations daily, and mixed with blood and matter.

States that he has had no pain, and that he does not now feel any except when passing water.

There is a thick collar about the orifice of the bowel. It feels firm, but not indurated; the inner surface is ulcerated. The lower end of the rectum is found to be covered in its whole circumference, but further up in front than behind, with a smooth, soft, somewhat lumpy growth.

About a month ago the patient noticed some defect in passing urine. The evacuation became slow.

He has now come by degrees to be unable to empty the bladder except at the closet. He suffers great pain along the urethra while the urine is passing, and for half an hour after. A few days ago there was retention of urine, and the use of a catheter was necessary, but only once. The urine contains at times a large proportion of fæcal matter, and a good deal of urine is voided with the fæces by the rectum.

Still further progress is exemplified in the two following cases, the disease having led to a fatal result.

Cancer of the Rectum and Liver.—Peritonitis brought on by exposure to cold.

Case 73.—Mr. O., aged about 65, father of the lady whose case is numbered 6, applied to me to

ascertain if an operation for hæmorrhoids would be beneficial to him. He seemed a healthy person—his countenance fresh-looking and florid. I found small external hæmorrhoids. They were not, however, in an active state, and they produced no real inconvenience. Upon questioning the patient closely, I learned that he had experienced a degree of discomfort about the bowel for nearly four years. The principal uneasiness was felt over the sacrum, and this increased when he walked any distance. To relieve the sacral pain as he walked, he was in the habit of resting the part from time to time upon a crutch-handled stick. On the whole, however, this gentleman's suffering was but slight. The fæcal matter was stated to be sometimes smaller than natural, and flattened, while at other times it was 'pretty well sized.' Occasionally some 'whitish matter with a little blood' had been noticed. Flatulency was very troublesome. Upon examining the bowel I found it to be indurated and lumpy all around, and narrowed at the distance of between two and three inches from its orifice. In such circumstances no operation such as the patient had contemplated was allowable.

In a month after his visit to me, I had a letter from this gentleman stating that his discomfort had abated, especially the flatulency, under the use of some medicine (Brandish's alkali), which I had recommended to him. He had suffered little pain, and had not found it necessary to resort to the use

of an opiate. In about eight months later, intelligence reached me of Mr. O. having died rather unexpectedly. I was informed by a member of his family that a month before his death, which took place in the month of December, having gone in an open carriage to C., a distance of fourteen miles from his home, and returning late in the evening, 'he caught cold, from the effects of which he never seemed to recover, though he was not so ill as to be obliged to keep his bed for more than a single day. The bowels continued to act sufficiently all through, and they were relieved to the very day of his death.'

The following account of the condition of the viscera of the abdomen I owe to the courtesy of Dr. Ward of Huntingdon, who examined the body. The cæcum and colon were largely distended with air, so much so that they concealed all the other viscera from view. Upon the right side just below the ribs was found a tumour of small size, projecting from the edge of the right lobe of the liver. The tumour was connected also with the colon and with the abdominal parietes at the same place. At the point of connection the bowel and the abdominal wall were likewise involved in the scirrhous disease. Two other similar tumours were imbedded in the convex surface of the same lobe of the liver.

The small intestines were partially glued together by means of soft lymph; and there were vascular patches over the cæcum and the colon. The cavity

of the peritoneum contained a considerable quantity of puriform fluid. All these latter appearances were evidently the result of recent inflammation of the peritoneum. The disease of the rectum involved it to the extent of four inches. It was plainly cancerous.

Here then was an example of what, in the language of Sydenham, might be called 'intercurrent' inflammation supervening on the 'stationary' disease. Exposure to cold excited an inflammatory state which the stationary disease probably determined towards the abdomen, and rendered intractable.

Cancer of the Sigmoid flexure of the Colon and the upper end of the Rectum.—Escape of the contents of the bowel through an ulcerated opening.

Case 74.—In the autumn of 1854, I saw a gentleman, aged about 55, who, nine months previously, began to be troubled with constipation, to which was superadded, after the lapse of a couple of months, distressing pain about the anus and extending thence to the neighbouring parts. During last autumn, not long after he had begun to suffer pain, it was ascertained that this gentleman had, within six weeks, lost weight to the extent of twenty-three pounds; and he was said by an acute observer, his medical attendant, to have continued very perceptibly to lose flesh during the winter also, so that, from having been, about ten months before, as the patient himself told me, 'a large and portly person,'

with florid countenance, leading an active life as a country gentleman, he was, when I saw him, comparatively spare, even feeble, and stooped. His eyes had now a yellowish tinge; his face was pale, with an expression of extreme anxiety and suffering. The following was the further report of the patient's condition made at the time:—

The pain he feels has much increased in intensity since the outset of the disease. It extends from the rectum forwards to the perineum and the testes, outwards also to the buttock and down the left thigh at its back part. It is especially distressing over the sacrum. After an evacuation the suffering begins, or is augmented. There is then for a considerable time, it may be for hours, 'a feeling as if there were constantly something to part with'—'as if the smallest particle of fæcal matter in the rectum irritated, and could not be borne.' Hence the efforts to empty the bowel are often repeated. The distress not unfrequently increases towards evening and continues in the night, hindering sleep and producing extreme unrest.

The bowels, which at the beginning of the illness were in a confined state, have lately become rather relaxed and this adds much to the patient's misery. The evacuations are occasionally accompanied with some mucus tinged with blood. Twice within the last month a larger quantity of blood was noticed. There is now seldom if ever any cessation of suffering, except what is obtained by the use of a

suppository consisting of a grain of opium mixed with half a grain of extract of belladonna.

The examination of the rectum and the abdomen gave the following results :—The bowel, as far up as its condition could be investigated, was healthy, with, however, a slight appearance of increased vascularity and some adhesive mucus in streaks over the lining membrane. The examination gave no pain. At the left side of the pelvis, in the neighbourhood of the sacro-iliac junction, there was felt through the abdominal walls, a rounded tumour the size of the closed hand, or larger. The liver was manifestly enlarged. This organ extended considerably further than is natural below the edge of the thorax in the epigastrium especially, and slight uneasiness was caused by pressure over it.

The sequel of the history, for which, as well as for much of what precedes, I am indebted to Mr. Bramley, of Halifax, the patient's usual medical attendant, is as follows ;—In a week's time, after his return to the country, an attack of vomiting came on ; the abdomen became tympanitic ; blood was passed from the bowel in small quantities at a time, but amounting to as much as four ounces in the course of a day. The tongue was coated and brown; the pulse numbered one hundred and twenty. These symptoms, after having subsided for several days, again returned in an aggravated form. Now there was incessant vomiting, with hiccup. The abdomen became tympanitic ; the course of the colon was

well defined throughout. Blood was passed in considerable quantity. The patient soon sank exhausted.

The abdomen being examined 'post mortem,' a large quantity of fluid fæcal matter and blood was found to be effused into its cavity. The intestines, particularly the cæcum and colon, were much distended with flatus. Towards the left iliac fossa was a large mass of disease. This consisted of the sigmoid flexure of the colon altered in structure and adherent to the spine. The gut here was much thickened, and in a soft almost sloughy state, tearing with slight manipulation. At the lower end of the diseased part, at the brim of the pelvis, where the intestine dips into that cavity, was discovered a stricture of the bowel, which admitted only the passage of the little finger; and about one inch higher up was an ulcerated opening the size of a sixpence, through which the contents of the intestine had escaped. Above the diseased portion, the colon was thickened. The liver was paler than natural; the middle part and the left lobe more enlarged and indurated, and full of a 'cheesy matter.' The other organs were healthy.

The foregoing cases are sufficiently illustrative of the leading symptoms of cancer of the lower bowel, at different stages of its progress. We shall now take up the second head of our enquiry—the appearances found in dissection.

II. EXAMPLES OF THE MORBID DEPOSIT IN DIFFERENT STAGES OF ITS GROWTH.

The position the cancerous matter occupies in the bowel, and the effect it produces upon the gut and upon the neighbouring parts in different stages of its growth, are the points for investigation here. It is obviously by examination of the organs in dissection, and only in this manner, that adequate information is to be gained upon these subjects. But the opportunities of observing the whole progress of the morbid changes are not obtained without difficulty, for, though the disease in an advanced condition is from time to time met with in dissections, and is well illustrated in anatomical museums, it is otherwise as regards its early condition. Indeed the opportunities to observe the early appearances of the cancerous growth in the bowel are very rare. Their infrequency may be attributed to the circumstance that the disease is seldom—at least, this is the result of my own observation—seen to originate at more than a single point. An independent recent deposit but rarely accompanies the advanced stage which leads to the fatal result. Moreover, if death should arise from some other cause, even though recent cancer may actually be present in the rectum, it is likely to escape observation, not having given rise to any symptom which would call attention to the bowel.

Nevertheless, it will, I think, be found that although, for the reasons just stated, the means at my disposal for illustrating the early stages of the morbid growth are not abundant, they are yet sufficient for the purpose.

A small Tumour beneath the mucous membrane.

Case 75 *a*.—We have here an instance of that state of disease already alluded to as a rare occurrence, wherein different deposits exist in the neighbourhood one of the other, and at different periods of growth. A small tumour, nearly the size of the last joint of the little finger, is seen in the section of the gut beneath the mucous membrane, and, at a short distance above, a larger mass which is in a state of ulceration. It is only the former that is now to engage our attention. The mucous membrane over the small tumour was found to be 'perfectly healthy.' In short, the morbid deposit was confined to the submucous tissue, in which it first made its appearance. It consisted of two substances, one being solid fibro-cellular, the other semi-fluid. 'By means of slight pressure the soft substance escaped from a number of points, resembling curdled milk.'—To the larger tumour of this case we shall return presently.

Tumour on the side of the Gut.—The growth and the mucous membrane over it partially ulcerated.

Case 76.—Upon the inner surface of the rectum,

near its lower end, is a nearly circular elevation, measuring about two inches in diameter, and formed by a deposit in the submucous tissue. The enlargement is half an inch in thickness at the middle, from which point it thins off to the edge all round. Over the most prominent part the mucous membrane is ulcerated, but towards the circumference the membrane is quite sound. On its outer surface the bowel has no appearance of the disease. There the muscular coat is healthy, but this structure is penetrated by the morbid growth on its opposite side. The tumour consists of cancerous matter.*

A further progress in the disease will be illustrated by the more advanced growth in a case before noticed.

The tumour projects into the bowel.—The mucous membrane over it removed by ulceration; and the tumour itself hollowed by the same process.

Case 75 *b*.—Just within the margin of the anus, and occupying three-fourths of the circumference of the gut, is an indurated mass, measuring three inches across the bowel by half that extent in the

* The preparation here described is that numbered 1268 in the Museum of the College of Surgeons.

It should be mentioned that the account given of this and some other preparations in the same Museum has not been taken exclusively from the Catalogue. It is in a great measure the result of an examination made by Mr. Quekett and myself, and with the microscope as well as the naked eye.

opposite direction. A large part at the middle is ulcerated to the depth of half-an-inch, the hollow being surrounded by an elevated ridge. The ridge projects nearly an inch above the level of the surrounding mucous membrane. It is hard, ragged on the surface, of a deep red colour intermixed with a greenish yellow tinge, and is half-an-inch in thickness. A section being made through the gut and the morbid growth, the latter is seen to be possessed of considerable thickness, even outside the ulcerated part. In short, the tumour projected from the coats of the bowel to the extent of an inch into its cavity, and the projecting part was hollowed by ulceration at its middle. The mucous membrane was removed by ulceration over the prominent part of the mass, and the muscular structure was encroached on by the base of this. The morbid growth seems to have been first formed under the mucous membrane,—a portion is still seen to be so placed. It was composed of exactly the same semi-fluid and solid substance of which the smaller lump was made up (see page 250).

There is another point in the case which requires attention. It is thus noticed in the Catalogue:—'All round the diseased growth, to the extent of three-quarters of an inch, the mucous membrane presents a number of elevations, some of which are round, others oblong or cylindrical. They are hard, somewhat moveable under the lining membrane of the gut, to which they do not adhere firmly. The

lumps, which had altogether a sort of 'tubercular feel,' were found, upon examination after the membrane covering them had been removed, to consist of veins enlarged, convoluted, and filled with the soft matter which entered into the formation of the tumours.'* This, I believe, to be an example of colloid cancer.

I shall now show the disease involving the structures in the neighbourhood of the rectum as well as the bowel itself.

Obstruction of the fæcal evacuations.—Rupture of the Caput cæcum coli.—Cancer encircling the Rectum.—One of the ovaries involved in the disease.

Case 77.—An unmarried female, aged 42, had been troubled with obtuse pain in the lower part of the abdomen for about three years, and had much difficulty in the evacuations. Six months, or thereabouts, before her death, she suffered great pain in the situation of the cæcum and along the course of the colon. The bowels were much distended; and there had been habitually, during her illness, a discharge of pus and blood. The cavity of the rectum felt as if it were filled by a large tumour, the surface of which was ulcerated. The patient suffered

* See the drawings marked F. b. 196, with the MS. Catalogue, vol. ii. p. 437, in the admirable collection of Drawings of Morbid Anatomy in the Museum, made by a former distinguished Professor of the College, Sir Robert Carswell.

much pain, and indeed had no remission of it but what was procured by the use of opium.

Bougies had been used in this case. 'They seemed to aggravate the disease.'

In the dissection the cæcum was found to be ruptured. The condition of the parts affected by the primary disease is as follows:—A band of ulceration extends around the rectum, measuring from an inch and a half to two inches in breadth; the lower edge being four inches from the orifice of the bowel. The gut is much thickened for several inches, opposite the ulcerated part and above it as well. In the former situation there is distinct cancerous deposit, but in the latter there is no cancer whatever; here the thickening is owing to hypertrophy of the muscular substance. The greatest accumulation of cancerous matter is in the elevated edges of the ulcerated surface; and in consequence of the prominence of these there is complete occlusion of the bowel when the parts of the preparation are put together in their natural position.

The mucous membrane below the diseased part is healthy. It is partially thrown into folds.

The right ovary is converted into a rounded tumour about three inches in diameter. It consists of fibrous tissue with an admixture of cancer cells. Between the ovary and the diseased part of the gut there is a deposit of considerable thickness connecting the two together. It is composed of fat and a substance similar to that of which the ovarian

tumour is formed. The left ovary and the uterus are healthy.*

Cancer of the Rectum.—An ulcerated opening communicates between the bowel and the urinary bladder.

Case 78.—'For about two inches above the prostate nearly the whole of the walls of the rectum are destroyed by ulceration.' Over part of the ulcer, fungous excrescences project. There is considerable thickening and induration of tissue between the bladder and the rectum, but at one point the cavities of the two organs communicate by a narrow ulcerated opening which enters the bladder between the ureters.

An excrescence from the ulcerated part was found, on microscopical examination, to consist, through its entire substance, of epithelial cancer; and the ulcerated part generally gave the same appearance when divided and examined in its interior. Where the morbid deposit exists without ulceration it is seen to be between the mucous and the muscular coats of the gut.

Beyond the ulcerated portion the bowel is much thickened, but the thickening is there made up of fat and a fibro-cellular tissue. A considerable extent of the gut above the disease is largely dilated.†

* The preparation 1275 in the Hunterian Museum. See also the Catalogue, vol. iii. p. 108, and the Catalogue of Mr. Langstaff's Museum, p. 252. The preparation originally formed part of Mr. Langstaff's Collection, No. 1029.

† P. 1274 in the Museum of the College of Surgeons.

It will presently be shown, when we trace the situation and progress of the disease, as it is illustrated in the foregoing cases, that the morbid growth held in all nearly the same position among the tissues of the bowel and followed in a great measure the same course to its worst effects, so that the main difference between the cases was in the extent to which the disease had reached in them severally. No better place than this will occur for inserting the history of a case, in which the disease, originating differently, led to a train of consequences also different. I witnessed the dissection of the case in the Marylebone Infirmary, with Mr. Filliter, from whose report the following notice is taken.

Cancer of the Rectum extended to the Peritoneum, including the Mesentery with the great and the small Omentum.—Ascites.

Case 79.—William Ensor, aged 21, of slight conformation, but good general health, by trade a plasterer, had no irregularity of the bowels previous to his present illness. Two years ago, while carrying a burden up a ladder, he 'felt something give way inside him, and he had difficulty in maintaining himself on the ladder.' Six weeks afterwards his shirt was stained with blood which had passed from the bowel; and three weeks later he had frequent stools and much pain. Since that time he has been unable to work. About nine months since an operation was performed in a metropolitan hospital, in

which the patient says he was 'cut backwards' at the anus. Soon afterwards he could not sit straight on a chair or hold his motions.

When admitted into the infirmary the lad was much emaciated and blanched. He now passed blood with the motions. These escaped frequently in small quantities, and involuntarily. About the anus there was induration together with fissures in the neighbouring skin. With some remissions the disease continued to make progress. In November the inguinal glands were enlarged, the belly began to swell, and the lower part of the trunk and the lower limbs were soon also swollen and œdematous: —ascites and anasarca. The former increased rapidly and largely, insomuch that in a few weeks the point of the heart pulsated in the second costal interspace of the left side, and the breath-sound was heard only near the clavicle. The difficulty of breathing thereby occasioned was relieved by tapping the abdomen. The patient's life was, however, but little prolonged by the operation. He died early in January 1854.

The abdomen was found in the dissection to contain a large quantity of bloody serum with soft bands of false membrane stretched between its walls and the viscera. Nearly half the abdominal cavity was occupied in front with a whitish lumpy thick mass, which weighed 38 oz. In shape and size this mass had very much the appearance of a large liver, and like that organ it was divided unequally by a fissure. It was in fact the great

omentum loaded with carcinomatous matter. The peritoneum above the pubes was a quarter of an inch thick. The thickening ended in a defined margin. Nodules of the same character were beneath the peritoneum of the right flank, and studded its surface generally. Upon the diaphragm, also, the peritoneum was thickened even more than in the lower part of the belly, and more over the right lobe of the liver than elsewhere. The morbid deposit involved the hepatic ligaments; and a large mass was found in the small omentum, around the hepatic vessels and the vena cava. At the same time, the liver itself was free from disease; so likewise was the proper substance of the diaphragm. The mesentery was studded throughout with sub-peritoneal nodules the size of a pea and larger, several being connected with the intestine. About the spine the peritoneum was packed with nodular infiltration.

The stomach was the only part of the alimentary canal diseased except the rectum, the original seat of the morbid deposit. Besides some nodules connected with its small curvature, but separable from its surface, a mass the bulk of a walnut was found in the coats of the stomach near the pylorus. This lump was prominent in the cavity of the stomach, and the mucous membrane covering it was partially ulcerated.

The pelvis was filled with a hard mass so completely that it was not possible to pass the hand between the bladder and the rectum. When this

great tumour was removed and divided longitudinally from behind, the rectum, which was involved in it for several inches, was found to be an inch and a half distant from the surface. At two points, these being the upper and lower limits of the disease, the bowel was especially narrowed. Thus two strictures were formed, one opposite the base of the sacrum, the other between two and three inches from the orifice of the gut. The mucous membrane over each of the strictures was softened and in good part ulcerated. Above the upper stricture the gut was sound, while it was ulcerated and discoloured beneath the lower one. At the limits of the disease the cancerous deposit was clearly seen to be outside the muscular coat of the gut, in contact with the serous membrane. So was it all over the abdomen.

The pelvic tumour was firm, almost gristly in consistence, not unlike a turnip in section. Under the microscope it was found to contain abundant large defined cells with large nuclei and a good many compound cells. The disease elsewhere had the same characters.

The origin and the progress of the morbid changes in this case may be inferred from its history. The first sign of disease—the escape of blood from the bowel, and the advanced condition of the morbid alteration of the rectum, as shown in the dissection, point to it as the source of the hæmorrhage and the primary site of disease. The loss of blood, it will also be remembered, was soon followed by other

indications of disturbance in the lower part of the intestine. Moreover, the position of the cancer-substance at its original seat—in contact with the serous coat of the bowel, may serve to account for the extension of the disease along the peritoneum, or the cellular membrane behind it; while that connection of the cancer with the peritoneum explains the occurrence of dropsy of the abdomen.

In connection with the foregoing case I may make brief allusion to another recorded by Mr. Busk, in which the cancerous matter deposited outside the muscular coat of the rectum, formed a stricture and ended in acute peritonitis.*

III. GENERAL CONCLUSIONS DRAWN FROM THE CASES.

We are now arrived at the third division of our subject, wherein the facts narrated in the previous cases are to be arranged into a continuous history of the disease. The character and progress of the cancerous growth in the bowel as well as its effects on near and more distant organs; the influence the disease has on the patient—the general symptoms; together with the diagnosis and treatment, will successively come under consideration.

* The preparation was taken from a boy, aged sixteen, who had died from acute peritonitis. The stricture was situate about three or four inches from the anus. It was very tight, and was accompanied with ulceration of the mucous membrane. The stricture was occasioned by a large deposit of medullary carcinoma, external to the muscular fibres of the gut.—'Proceedings of the Pathological Society,' 1846-7.

The local disease.—The facts having reference to the condition of the local malady in various stages of its growth, as exhibited in the cases which I consider illustrative of the ordinary forms of cancer of the rectum (cases 68 to 78 inclusive), may be recapitulated as follows:—

I.—*a.* Cancer of the rectum occurs in several of its forms: scirrhous, colloid (case 75), epithelial (case 78), and soft or fungoid (cases 74, 81).

b. The deposit is first met with between the mucous and the muscular coats of the bowel (cases 75, 76, 78), and usually at a single point.

c. The disease spreads. The mucous membrane is partially ulcerated over the middle of the swelling, and the growth beneath it is also ulcerated in the same place.* The muscular coat is penetrated with the morbid deposit (cases 75, 76).

d. There is a further enlargement of the tumour, and the ulceration over its middle is extended in proportion, the circumference remaining prominent and thick. So the growth with the central hollow has the appearance within the bowel of an ulcer with indurated border and base (case 75 *b*).

e. The disease extends to the whole circumference of the gut and spreads also longitudinally towards the orifice of the bowel as well as upwards (cases 69, 70).

* So matters come under the eye of the observer, but the analysis of events would perhaps be rightly stated thus:—the tumour is ulcerated on the surface, and the mucous membrane being involved in the disease, is ulcerated with it.

The extreme parts are still thick and prominent, while the rest is excavated (case 75 *b*). The whole surface in this and the foregoing stages after ulceration has begun, is more or less uneven and lumpy; and it is covered with puriform matter, which is often brown or reddish in colour, from admixture of blood.

Such I believe to be the appearances that the disease, while confined to the bowel, most frequently presents, and the course of the morbid phenomena. But some forms of the local malady which may be considered exceptional, require a word of notice. Thus:—

An instance occasionally occurs in which fungous growths project from the ulcerated surface (case 77).*

* An example of fungoid disease of the rectum, which occurred under the observation of Dr. Bence Jones, is deserving of notice here, on account of the unusual form the disease seems to have assumed, and the rapidity of its course.—'The patient, from whom the diseased part had been removed, was a female, thirty-two years of age; of a scrofulous habit. Catamenia regular; constipation never known to exist. When in her usual health was attacked suddenly while at dinner, on the 13th December, 1848, with pain in the abdomen, vomiting, and tenderness: these symptoms did not yield to remedies, but became in the course of a month limited to the hypogastrium: there was then distinct hardness and tenderness, with distension of the lower part of the abdomen; no fluctuation; excessive perspiration and emaciation. She died on the 19th January, 1849. Post mortem examination: there was no peritonitis; the rectum appeared thickened and highly congested on its external surface; about two ounces of pus were found circumscribed in the cavity of the pelvis. On opening the rectum, nodules of fungoid disease were found extending over a surface of nearly four inches in length; the rest of the mucous membrane was healthy; the lumbar glands were not diseased, and no trace of malignant disease could be detected in any other part of the body.'—'Report of the Pathological Society of London,' for 1848-9, pp. 65-6.

On the contrary, it has happened that the whole of the morbid deposit has been evenly ulcerated over, without any projecting portions. Of this a preparation before you is an example. The ulcerated part here likewise is bounded below by a projecting ridge, which, however, is not a part of the tumour, but a fibrinous deposit in the mucous and submucous tissues. Respecting the case it is stated in the Catalogue, that the person from whose body it was taken died of some malady independent of that in the rectum. Indeed it is mentioned that disease of the bowel had not been suspected during life. A case recorded by M. Raynaud, which has been referred to by some French pathologists (Cruveilhier, Vidal) as an example of cancerous disease of the rectum without diminution of the calibre of the bowel, was probably of the same kind.*

To the list of exceptional or rarer circumstances, it must be added, that by reason of the coarctation of an annular scirrhous cancer, the bowel may be drawn inwards, so as to form a circular stricture.†

The changes which have been indicated as mark-

* 'Un épaississement squirrheux du rectum, existant à quatre pouces au-dessus de l'anus, et sans diminution du calibre de l'intestin. Cette pièce avait été rencontrée sur un homme de quarante-cinq ans, qui avait eu plusieurs hémorrhagies assez abondantes par l'anus et depuis deux mois une diarrhée rebelle, du météorisme et une incontinence des matières fécales.' [The discharges of blood render it more than probable that the surface was ulcerated over.]—M. Raynaud in 'Bulletin de la Société Anatom. de Paris,' 14 année, p. 68.

† An example will be found in 'Lectures on Surgical Pathology, by James Paget, F.R.S.', vol. ii. p. 219.

ing the progress of the specific disease, are for the most part the result of a course of deposit and ulceration, occurring concurrently but at different points; and notwithstanding the loss of substance occasioned by the latter process as well as by disintegration of the tissue or sloughing, there is on the whole an increase—a thickening with an induration of parts. According also to the proportion the additions made to the morbid growth and its decrease bear one to the other, together with their position and the direction they take respectively, will be the effects of the disease on the bowel, and on the parts about it. The details of the latter effects will now be noticed.

II. The morbid growth advancing beyond the rectum, neighbouring parts become involved. Thus:—

a. Should the disease be situate near the lower end of the gut, the parts about its orifice are affected. The skin it may be, and it forms a triangular prominence, or, but much less frequently, a circular one, surrounding the anus. Whatever its form, the fold of skin is at first thickened, then indurated, being included in the extension of the specific disease, and perhaps ulcerated on its inner side—cases 68, 70, 72. Or abscess is formed and fistulæ arise in the usual way, and extend from the skin to the interior of the gut. It is only I believe when the lower part of the rectum, where it is in contact with the cellular membrane and not insulated by a peri-

toneal coat, happens to be the seat of the disease that fistulæ are produced. In some instances the fistulæ burrow far and deeply into the buttock and about the sacrum. They occasionally give passage to fluid fæcal matter as well as pus (case 71).

On the other hand, when the upper end of the rectum is the part diseased, the bowel is liable to give way and discharge its contents into the peritoneal cavity (case 74). In such circumstances ulceration has probably been actively at work, and the final results have been expedited by the forcing action of the healthy bowel from above.

b. The cellular membrane of the pelvis becomes loaded with the cancerous deposit, so that the gut is imbedded in a mass of it, and appears as a large shapeless tumour. This often adheres to the spine, and probably presses on the nerves (cases 74, 79).

c. The disease extends to organs in the neighbourhood of the rectum. These differ, as it has been already indicated, according to the position the growth occupies in the bowel and the direction of its progress. In one case the ovary is infected (case 77); in others the vagina or the urinary bladder, and communications are established by the ulcerative process between the interior of the gut and these organs respectively (cases 71, 72).

The effect of the last-mentioned complications on the condition of the patient is remarkably different in the sexes. To the female, relief is commonly afforded by the greater freedom of the passage of

fæcal matter through the vagina (case 71). On the contrary, by the opening into the bladder the male patient has his sufferings much augmented.—See page 275.

III. Distant organs become affected by the cancerous matter, the liver especially, doubtless through the medium of the vessels (cases 73, 74). Such secondary deposits have been said to be less frequent when the primary disease is in the rectum, than in some other parts. Upon this point, however, satisfactory evidence is at present wanting to us, for cases have been reckoned as cancerous which were really not so. But if with adequate statistics the impression entertained on this subject should prove to be correct, the fact might depend on the greater comparative rapidity with which the disease of the bowel runs its course, and the shorter time therefore there is for the formation of secondary deposits. There seems to be no other cause to which the less frequent contamination of distant organs should be attributed, unless indeed with a larger accumulation of well observed cases—the nature of the morbid deposit being accurately determined for each—it should turn out that the epithelial cancer fills a larger space among the malignant disease of the rectum than with my present experience I can assign to it.

In tracing the disease from its commencement to the most advanced stages of its growth, we have seen it originate between the mucous and the muscular

coats of the intestine, and follow thence the blood-vessels to the liver. Another course is shown in case 79. There the disease began outside the muscular coat, between it and the serous covering of the bowel; and while the liver remained unaffected, its peritoneal investment and the peritoneum generally became loaded with cancerous matter. But as, where the liver is consecutively affected, the peritoneum may suffer in a degree (case 73); so in case 79, the peritoneum being the seat of large secondary disease, there was still a tumour in the stomach in contact with its mucous coat. The two courses of the malignant diseases were thus in a degree blended, though for the most part distinct.

So far the effects of the disease of the viscera of the pelvis and the abdomen: A question of importance in practice, the bearing of which will be apparent when the diagnosis is under review, remains to be noticed, namely, the place at which the disease first becomes manifest in the bowel. The position varies in different cases; and though none are exempt all parts of the rectum do not seem to be equally liable to be affected. I have most frequently met with the lower margin of the deposit at the distance of from two to three inches above the orifice of the bowel (case 73). The part of the intestine between that just indicated and the anus is, according to my own observation, next in the order of frequency as the seat of the disease (cases 68, 69, 70), and to this succeeds the lower end of

the colon (case 74). Judging by my present experience, the anus is but rarely affected with cancer, except by extension from within—case 70.*

The posterior part of the gut is, I believe, commonly first affected (case 68). The starting point, however, is sometimes in front, in the male behind or close to the prostate (case 69). But whatever may be the side of the bowel at which it first appears, and it may be at any point, the disease has a proneness to extend, and rapidly, to the whole circumference (case 69).

General Symptoms. — The early indications of this distressing malady are often very slight, insomuch that where cancer was actually present, application has been made to me for the treatment of hæmorrhoids (case 73), or of the fistula consequent on the malignant disease. The first stages in the deposit of the cancerous material are in one case accompanied, perhaps preceded, by sluggishness in the action of the bowels (cases 70, 74), in another by the opposite state, diarrhœa (cases 72, 81).

As the morbid change advances a discharge of blood, or of blood mixed with mucus or puriform matter, is commonly met with. This is voided

* This is the reverse of the statement made by some French observers. Thus, M. Cruveilhier says, 'Le cancer anal est peut-être plus fréquent que le cancer du rectum proprement dit. Il succède ordinairement à des hémorrhoides irritées ou à des végétations syphilitiques.'—'Anat. pathol.' livr. 25.—I suspect that the 'végétations syphilitiques' will account for all the difference between us.

with the fæces; it occurs also at times with the effort to evacuate urine (case 70), and often takes place independently of any other evacuation (cases 69, 71.) The quantity of the blood so lost varies from a streak upon the fæcal substance to a couple of drachms, or as many ounces at a time. The discharges are doubtless the consequence of the ulceration which, as we have seen (*ante*, p. 261), soon follows upon the formation of the cancer-substance.

Gradually the fæcal evacuations are impeded, and in various degrees. Patients state perhaps that there is no action of the bowels except under the influence of medicine. It often happens, nevertheless, that scanty discharges of thin fluid are from time to time forcibly ejected. When consistent the fæcal matter is usually slender or flattened—ribbon-like, and sometimes hollowed on the surface. At a later period the evacuations are even arrested for a time, and effectual relief is only obtained at intervals. After much accumulation, with the aid of violent and painful expulsive efforts, the pent-up matter is discharged suddenly in large quantities, as if a barrier were overcome (case 81). This is the course of events in many instances. But in some the fæcal matter continues to be evacuated in small scraps, and with this condition I have known more than once a continued need for evacuation to exist while any remains of the fæces were left in the diseased bowel (case 74). In a third set of cases,

and the rarest, the evacuations continue with a certain degree of regularity (cases 69, 73).

The hindrance to the passage of the contents of the bowel is commonly occasioned by the projection of the cancerous tumour, especially at its upper margin—cases 75 b, 77. Fungous projections, should they be present, cause impediment of the same kind; so also do, now and then, small polypoid growths from the diseased surface which descend to the anus during the effort to evacuate. And not only have these little bodies the effect alluded to, but, from being grasped by the sphincter and in contact with the sensitive skin, they occasion also much uneasiness to the patient.* It is at the same time worth noticing that complete obstruction has happened even where in the dissection afterwards there was found to be no inconsiderable space unoccupied by the morbid growth,—full room, for instance, for the passage of the finger through the narrowest part of the bowel.† This fact is probably to be accounted

* In consequence of the annoyance it occasioned, acting, as the patient said, like a valve and giving pain as well, I removed such a body from a patient (M. S.) whose case I had an opportunity of watching a short time ago. It was soft, brainlike, and had the microscopical characters of soft cancer. Others were felt, but being sessile or nearly so, they did not give trouble by descent to the orifice of the bowel.

† To the description of a preparation showing a broad band of ulceration with elevated and irregular edges (said to be cancer) encircling the rectum, which is contained in the Museum of the College of Surgeons, the following note is appended in the Catalogue :—'The patient died with great distension of the intestines; and the fæces could not be discharged, though the canal of the rectum was not much contracted.' The preparation is No. 1271, 'presented by Sir William Blizard.'

for in part by the mechanical obstacle afforded by the mucous membrane, turgid with blood and often puckered or folded at the orifice of the stricture; and in part also, perhaps chiefly, is it to be assigned to the contraction of the muscular coat of the gut. We can understand that a slight action of this kind should be enough to close the bowel where it is already in great part filled with a cancerous mass.

It is held that the disease of the bowel, depriving it of the capability to take a due share in propelling the contents, causes the arrest of their progress. To me, however, it seems that the passive state of the muscular fibres, while it would account sufficiently for the fæcal matter not being transmitted through the diseased part of the bowel, would not account for the substance being stopped above the disease, where its progress is actually arrested. Besides, I do not believe that the gut is paralysed by the presence of the morbid deposit except in cases of very advanced disease; and in support of this opinion I would adduce the strong contraction of the diseased part of the gut, of which there was evidence in a case to be mentioned hereafter (No. 81). So likewise it is maintained that paralysis of the bowel above the disease, brought on by over-distension, contributes to the same effect.* But neither can I regard this as a

* The argument for paralysis in both parts of the bowel is maintained, by Rokitansky, under the head 'Theory of the ileus produced by cancerous degeneration of the intestine,' in his 'Manual of Pathological Anatomy.' See vol. ii., 'translated by Edward Sieveking, M.D., p. 101. [Sydenham Society's Works.]

common cause of the stoppage, because violent contractions of the bowel (as well as of the abdominal muscles) are now and then plainly evident down to the seat of the stricture (case 74); because also the hypertrophy always noticeable in the muscular fibres seems to be an indication of increased action, not of paralysis. To these facts I would add that, after obstruction continued almost to extremity, the alvine evacuations have been restored for a time merely by the passage of a bougie through the cancerous growth, and moreover, that the distended bowel, when opened in a surgical operation, discharges its contents through the artificial opening, and continues to do so. The foregoing observations are applicable to obstruction arising out of other morbid alterations of the intestine — the simple stricture (see especially case 61), or the concentric thickening,* for instance—as well as to that caused

* John Hunter ends his account of a case of chronic thickening of the bowel, in these words :—'On introducing the pipe by the anus, it was found to come butt against one side of the upper part of the cavity of the tumour, where there was a bend in the passage ; but why a crooked pipe did not pass when attempted to be passed by turning it to all sides, I cannot conceive. Or why a bougie which was slightly bent, did not hit the hole, is not easily accounted for : but what is more extraordinary than either, why a clyster did not pass freely up ; or why did not the wind or soft excrementitious matter, that did yet lay, pass readily down, while I could pretty readily pass the end of my finger down from the gut above into the tumour. The folds of the contracted part did not appear after death to have been sufficient for an entire stoppage of this sort.'—'Hunterian MS. Cases and Dissections, No. 59,' in 'Descriptive Catalogue,' &c., vol. iii., p. 98.—Paralysis will not, it seems to me, help the explanation here, for if

by the malignant disease immediately under consideration.

The account of the sources of impediment to the alvine evacuations may be closed with the reference to a case in which the disease, in a singular manner, led to obstruction beyond what might be the direct effect of the cancerous tumour.

Intussusception of the Rectum.

Case 80.—The patient, a male, had been long 'troubled with a costive state of his bowels,' and in the last eight years of his life he had symptoms of disease of the intestine, viz. 'pain in voiding the fæces, and they were generally formed into scybala, and presented appearances like lumbricoides mixed with blood and pus.'* The patient died with ascites from diseased liver. That organ 'was very small, extremely dense in structure, and presented that granulated appearance generally seen in dram-drinkers.'—There is intussusception of the rectum, the upper part within the lower part. At the lower end of the intussuscepted fold (probably the part

the diseased part of the bowel were passive, there can be little doubt that, with so much space as was found in the dissection, the clyster, and air, and soft excrementitious matter, would have passed into it and through it. But with some engorgement of the folds adverted to, or with especially a little contraction of the muscular fibres—phenomena very likely to occur during life—the closure of the bowel against those fluids, and the difference in this regard between the living and the dead intestine, receive, I think, a reasonable solution.

* 'Catalogue of the Preparations constituting the Museum of George Langstaff,' p. 238: London, 1842.

first inverted) is the cancer. The disease extends all around the bowel, and in the words of the catalogue 'is like an epithelial cancer.' The inverted part measures four inches, but that being the measurement of a fold, must of course be doubled to give the length of the whole piece.*

As in other diseases which occasion obstruction of the bowels, flatulency is here often and at an early period complained of. The abdomen is swollen, not only by fæcal accumulation, but by air also. This [tympanitic] condition increases as the disease advances, and the distension becomes a source of much distress to the patient.

The discharge of urine is in some instances affected, and in different ways. Thus, a good deal of distress arises from frequent and painful evacuation (case 81). On the other hand, it may happen that the evacuation is slow or difficult and effected only after the patient has changed position—perhaps inclining the body forward (case 70). Even retention, requiring the use of the catheter, occurs, but this inconvenience subsides usually in a short time (case 69). I have seen these distressing complications best marked in male patients, the disease of the rectum having originated at its fore part, close to the prostate or the bladder. That the influence upon the bladder in these cases may be only functional—that

* The preparation which formed part of the Museum of Mr. Langstaff, is now in the Museum of the College of Surgeons, No. 1380. See also 'Descriptive Catalogue of the Pathological Specimens in the Museum of the Royal College of Surgeons,' v. iii., p. 145.

is to say, independent of any morbid change in the urinary organs, certainly independent of the presence in them of the specific disease—is proved by its being temporary, as well as by dissection (case 81).

But we have seen that the bladder is occasionally involved in the disease. When by extension of the ulcerative process to it from the fore part of the rectum, an opening is established between the two cavities (case 72), the distress of the patient is much aggravated. Fæcal matter is then mixed with the urine, and while the bladder is discharging its mixed contents, as well as for some time after, pain may be felt along the urethra, or that canal may be clogged, and the use of a catheter rendered necessary. On the other hand it also, and, according to my own observation, usually happens that urine flows into the rectum at the same time that fluid fæces find their way into the bladder. In such circumstances the patient probably complains of purging, although the quantity or kind of the fæces or of the actual intestinal excretion, is not unnatural; the frequent desire to evacuate being occasioned by the continued passage of urine into the bowel, (case 72).*

* In the case noticed in the text, the bladder is perforated at its base, between the ureters (as in 78). Should the bowel communicate with the upper part of the bladder, the effect is in a degree different. The fæcal matter enters the bladder, but the urine may not enter the bowel. I have watched a case in which, the sigmoid flexure of the colon opening into the top of the bladder, there was no evidence of urine entering into the bowel.

Pain is almost an invariable attendant upon cancerous disease of the bowel. I have known it inconsiderable in degree and inconstant, so that it was a teazing uneasiness rather than actual pain (case 73). I have known it amount to intolerable anguish, and without remission, except under the influence of an opiate (case 74). The average of cases would range between these two extremes. It occurs in the rectum and its immediate neighbourhood: over the sacrum: along the perinæum: in the fold of the nates of one or both sides,—when at one side, I have found it most frequently at the left: down the thigh on its back part, and even, but rarely, over the calf of the leg. The pain over the sacrum, commonly the severest of all, was most intense, when, upon examination 'post-mortem,' the bowel was found converted into an indurated mass, and firmly adherent to the spine, for example case 74. But instances occur in which the sacral pain is wanting, as in case 69, wherein the disease was at the anterior and lateral part of the bowel only. I have also ascertained it to be wanting in other instances in which the lower part of the bowel, near the sphincter ani, was affected, (cases 70, 72); nevertheless, the immunity in such cases is by no means invariable.

Where the lower end of the bowel, including the orifice in any degree, or the tissue over the sphincter, is involved in the disease, or affected in any way (e. g. inflamed in a degree) by the neighbourhood of

the disease, the sitting on an ordinary seat is often so painful that persons so affected will rest with one side of the pelvis on the chair, or partly supported by two chairs placed a little apart (case 70). I have seen an aged female habitually lie down on account of the suffering occasioned by the sitting posture.

It is also where the lower end of the bowel is affected that abscess and fistulæ are likely to add the distress that attends them to the suffering occasioned by the specific disease. And yet it may be that the fistulæ, like the opening into the vagina of the female, should rather afford a measure of relief, and in the same way, namely, by lessening the hindrance to the evacuation (case 71.)

In many cases the cancerous disease has been otherwise manifest but a short time, if any time, when the constitution gives token of its presence. A general loss of flesh is perceptible. The face has a waxiness of appearance, or it seems puffed. The eyes, it may be, have a yellowish tinge. In short, there is the aspect of deep depression and taint of the system—of the blood it is usually thought—to which the term 'cancerous cachexia' has been applied. The condition was well exemplified in cases 68, 74. Of the general disease, of which the cachexia is the plain evidence, the local one is only a manifestation; but that the local disorder becomes in itself a source of added contamination to the system we have proof in the secondary disease found in the lymphatics and

in the liver—an organ in direct vascular connection with the bowel; and it is highly probable that this contamination exists in the system even when the same evidence is not or not yet palpable. Thus, the cachexia increases with the advancing disease, or perhaps becomes evident where it was not before perceived. But cases are now and then met with which are exempt from the appearance of serious constitutional disorder (case 73). So likewise is it with cancer of other organs, the female breast for example—the part in which we have most frequently occasion to witness the disease and to mark its incidents. While one person suffering from cancer of the breast has well marked cachexia, another is to the last entirely free from it; and there is not, either in the constitution of the patients or the nature of the disease, anything that I know of to account for the difference.

With the train of circumstances of which the outline has now been traced out, the health is undermined, but the rate of the progress varies much in different persons. For while one may continue to suffer but slightly for a few years, another is exhausted in months (cases 73, 74). The same difference is observable in cancer of the breast also. But comparing the duration of the two—disease of the gland and of the intestine—the whole course is commonly more rapid in the latter. This result would probably be expected from the interference here with the function of the bowel, and from the

comparatively early occurrence of ulceration with the copious discharges arising out of it.

In no other respect does the disease in different persons vary more than in the manner of its ending. Thus:—The patient may be exhausted by the mere progress of the disease, with or without the complications mentioned as attending on the extension of the cancerous deposit beyond the bowel: Insuperable obstruction to the alvine evacuation occurs, and is fatal (case 81), unless an opening should be made in the bowel accidentally by the progress of ulceration or by means of a surgical operation, whereby an artificial anus is formed: The advancing ulceration of the morbid growth leads to rupture of the bowel and the escape of its contents, with the speedy effect of this — destructive peritonitis (case 74): The obstruction causes rupture of the intestine higher up from over-distension (case 77): Peritoneal inflammation arises and is intractable on account of the cancerous deposits in contact with it, as well as the state of the system (case 73): Ascites may be induced (case 79).

The presence of malignant disease in an individual case will be determined by the accordance of the circumstances with the local condition and the general indications which have been set forth; but difficulty occasionally arises which renders a few further remarks necessary. It is where the disease is within the reach of the finger that the diagnosis is made with the nearest approach to certainty.

When beyond reach, there is often much difficulty. Nor is this to be wondered at; for suppose a tumour, ulcerated or not, in another part, say in the mammary gland, were covered up and neither seen by the surgeon nor felt, what certainty could there be in deciding as to its nature? Moreover, not only is it impossible for the surgeon to touch the upper part of the gut from within, but help is not gained by examination from without. Any material consolidation in most other parts of the intestine, the colon for instance, would be distinguishable through the abdominal walls (case 74). It is not so, however, as regards the lower bowel, unless the tumour should be unusually large. The thickening of this portion of the intestine is not felt, on account of its depth and the unyielding nature of the cavity (the pelvis) in which it is lodged. It is for these reasons that, even assuming it to be determined from a consideration of all the facts, that the upper part of the rectum is the seat of serious disease, the nature of this, whether it be simple stricture, induration from chronic inflammation or cancer, may still remain a matter of some doubt. In aiming at all attainable certainty in the diagnosis, it is to be remembered that the symptoms altogether, saving only the obstruction to the evacuations, are least urgent in the mere stricture. In it the puriform and sanguineous discharges are less than in the other two forms of disease, the pain in contiguous parts is less, and the health suffers less. Except in

very rare cases, the suffering in cancer is in every way greater than in the inflammatory thickening of the gut, and the progress of the disease is more rapid. Moreover, if cachexia should manifestly be present, if also, in the examination of the secretion from the ulcerated surface, or of any particles which may happen to be removed with a bougie, nucleated cells should be found, or if secondary deposits elsewhere, as in the liver, should be detected, good evidence of the presence of cancer will have been attained.

Treatment.—Before proceeding with the recommendations I have to make as to what should be done in a case of cancer of the rectum, it may be well in the first instance to mention what, in my opinion, should not be done. Certain methods of treatment, used with more or less benefit for disease of the same kind elsewhere, have been resorted to in cancer of the rectum, for instance, pressure (with a bougie), the application of escharotics, and excision. As I have long felt satisfied that, except in rare and peculiar circumstances, these measures are not likely to be beneficial, I have not had recourse to any of them as a means of cure in disease affecting the bowel. The evidence to be adduced must therefore be drawn from their advocates. It will, perhaps, be better, as well as more in conformity with the general plan of these lectures, if I cite, ever so

briefly, the history of a case, rather than state the result merely. The following is an outline of the illness of a very remarkable member of our profession, the founder of a school of medical doctrine once very popular in his own country.

Cancer of the lower half of the Rectum.—Treatment by Bougies and Escharotics.

Case 81.—M. Broussais was a man of very robust frame and vigorous constitution. It was only when he was well stricken in years, and towards the close of his life that he felt anything like ill health. At that period he appears to have been troubled for a few years with diarrhœa, but his appetite the while was good, and to use his own expression, 'the upper digestion went on well.' After the bowel-affection had continued for some time, the process of defæcation became gradually more and more painful and difficult. The evacuations occurred at longer intervals, and the difficulty steadily increased till each became a serious operation. From the outset of the disease there was a good deal of pain about the urinary bladder, with frequent desire to pass water.

When first consulted—it was in April 1838—M. Amussat found in the rectum behind the prostate an uneven or lumpy thickening ('plaque bosselée,') which was smooth and hard to the feel. The morbid deposit then occupied the anterior three-fourths of the bowel. It was about two inches in length, terminating above the sphincter.

In July of the same year the whole circumference of the bowel was involved in the disease, which now extended further downwards likewise, reaching the sphincter. At the upper end the morbid growth formed a prominent circular ring, which became a constantly increasing obstacle to the egress of fæcal matter. The discharge from the bowel, independently of the copious eruptions which occurred at times ('débacles,' M. Broussais called them) was fluid fæcal matter and glairy mucus. Some of the latter fluid likewise escaped involuntarily when urine was voided, to the great distress of the patient.

Wax bougies were used for several months. At first it was thought with advantage. Indeed 'the relief and improvement were such, that the patient anticipated a cure from this measure alone.' But after having persevered from April to August, the surgeon then reports 'that he had long been satisfied of the insufficiency of mechanical dilatation. New growths were sprouting out, and they projected so far as to obstruct the canal.' These it was thought necessary to destroy.

The surface of the diseased part was now rubbed over with nitrate of silver, and the application was repeated at intervals during the months of August, September, and October. The use of the caustic was attended with pain. After the last application it was found by the surgeon more difficult to pass the finger than at any previous examination. M. Broussais now became gradually enfeebled. He died in

November of the same year. There had not been an evacuation for three weeks before his death.

This was the state of matters revealed by dissection :—The cæcum, the right and left colon, and the sigmoid flexure were loaded with soft fæcal matter of a yellowish colour; but not the transverse colon. The lining membrane of all these portions of the intestine was healthy. The rectum, which was removed with difficulty, was diseased over four inches from the anus, and in its entire circumference. Its inner surface was pulpy, and had for the most part the appearance of cerebriform matter. In the subjacent tissues there were several deposits of pus. But the gut itself, and the cellular tissue separating it from the prostate, did not appear to be either thickened or hardened; and when the diseased part had been cut through in its whole length, no prominence capable of forming any material obstacle to the passage of fæcal matter was perceptible. Above, the bowel was dilated.

The lymphatic glands of the abdomen were everywhere sound; so were the prostate, the urinary bladder, (except a slight trace of vascularity in the lining membrane,) and the other abdominal viscera, as well as the pectoral organs, and the brain. Indeed, the patient himself, throughout his illness, often expressed the conviction * that there was no disease except in the rectum.†

* 'Tout est dans le rectum,' disait-il souvent, en se frappant le ventre.

† 'Gazette Médicale,' 1839.

The benefit which here resulted from the bougie was of short duration; and it is not unlikely that on the whole the use of that instrument expedited the progress of the disease. In estimating the effect of the nitrate of silver, the following facts are material:—It gave rise to much pain: after it had been used several times, it is stated in the report 'that the tumours had diminished one-half,' still there is the admission subsequently made, that upon examination with the finger, the contraction of the bowel proved to be greater than at any former period, 'not only at the anus, but in the whole length of the diseased part,' insomuch that the surgeon had now a difficulty in reaching the upper end of the disease: fæcal matter was felt above the diseased parts, and yet, notwithstanding the assiduous use of the enema, constipation had lasted for twenty-one days before death: lastly, pus was found outside the rectum. The question now arises why, the growth being diminished in size, should the obstacle to the passage of the finger and of course to the escape of fæcal matter as well, have been augmented? The answer must be found in the influence of the muscular coat of the bowel excited to contraction by the caustic—by the inflammatory state it induced. Of the presence of that state, the increased pain and the pus are further evidence.

In another case the same surgeon broke down the prominent part of the cancerous growth with large toothed forceps, and afterwards applied

caustic potash. The treatment apparently was injurious.*

The result of these cases, and of others such as these, has confirmed me in the objection I have felt to the practice therein adopted. But though as a plan of treatment and with a view to the cure or the retardation of the growth of the cancer, the means adverted to be not beneficial, but the reverse, still circumstances do occasionally arise in which the destruction of the tumour, if within reach, and the introduction of a bougie or a tube would be properly resorted to, in order to relieve for the time the obstruction and to effect the evacuation of the bowel.

It is a good rule, as regards the excision of malignant growths generally, that the operation should be free of, if not wide of the tumour, so as to guard as much as possible against the reproduction of the disease. But in the removal of cancer of the rectum a reasonable compliance with the rule would be practicable in only a very few cases. The propriety of the operation, however, is best tested by the cases in which it has been put into practice. Turning to these, I find (and again the evidence is to be drawn from foreign surgery) that M. Lisfranc, who might be said to have recalled the operation from oblivion, states that out of nine cases operated on by himself, six were relieved. Three died from the effects of

* 'Mémoire sur la possibilité d'établir un anus artificiel,' p. 52. Paris, 1839.

the operation.* M. Velpeau is said to have lost three out of six cases.

The chief immediate danger is from hæmorrhage. There is also a risk of the peritoneum being wounded, on account of its near approach to the lower end of the rectum on its forepart. Again, after having recovered from the effects of the operation, some patients were found to have lost the power of retaining the fæces. My opinion is, that if the disease should be strictly limited to a small space in the lower end of the gut, the removal might be effected with a fair prospect of advantage, but that otherwise it is wholly inadmissible.† I may add, that the inability to retain the fæces which is likely to result from an operation is not a conclusive objection to it in the instance before us, inasmuch as the same infirmity arises from the extension of the disease to the sphincter, where the operation would be advised. When the operation is undertaken it would be well to have ligatures passed, according to the practice of M. Velpeau, from the mucous membrane to the skin before the incisions are made, as far as that expedient can then be carried out. The object is that the parts might be drawn together speedily afterwards. Hæmorrhage

* Mém. de l'Acad. Roy. de Méd., t. iii.

† Reference to cases in which the diseased bowel seems to have been too freely removed, and illustrating all the serious results which have been indicated in the text, will be found in the work of M. Vidal [de Cassis].—'Traité de Pathologie externe,' &c., 2me édit. tom. iv., pp. 716-19.

must of course be controlled with the utmost vigilance during the operation, and carefully watched for afterwards.—From these more or less questionable remedies I turn to recommendations admitting of little question.

An essential part of the treatment of the disease is the relief of pain, and to attain this object, opium is the great resource; but as it is by no means an unmixed good, its use ought to be dispensed with whenever it is possible to do so, as in case 73. Belladonna extract in small quantity has been recommended to be mixed with the opium. This medicine may be of use at times, but I have found it disagree with more than one patient. It is on the whole best to administer the anodyne by the rectum, and as the smaller the bulk is the better it will be borne, I advise the medicine to be administered without the inert additions sometimes used in suppositories.

The diet is to be carefully regulated; and without going into detail, I would say that it should be moderate in quantity, and of a kind to contain a large amount of nutriment in the smallest bulk. The object is to bring down the quantity of the fæcal matter and the number of evacuations as much as shall be consistent with the health and strength of the patient. Stimulants are not beneficial.

Constipation and looseness are equally to be avoided, and if necessary, corrected. As the former condition is the more frequent, a laxative often becomes necessary. The enema of water in some cases

accomplishes all that can be desired in this respect. An aperient medicine, however, is also sometimes required; and in many instances a small quantity of sulphate of magnesia answers well. But in each case careful observation is necessary to determine the kind and the quantity of the aperient.

It is unnecessary for me to advert to medicines calculated to improve the health of the patient or to add to his strength, for these must be adapted to the state and the constitution of the person. I may add that from this part of the treatment I have in some cases seen unquestionable benefit; but on what might be called specific remedies I have no confidence in this disease. On the whole, from what has repeatedly fallen under my observation, I entertain no doubt that, with judicious management, dietetic and medicinal, while much will be done for the comfort of the patient, his life may at the same time be prolonged. Lastly, should complete obstruction arise as in cases, 77, 81, the disease being in the rectum and confined to that bowel, an artificial anus ought to be formed. In the case before us, the left colon in the lumbar region is, beyond all question, the part to be preferred for that purpose, and because an aperture may there be made into the bowel without opening the peritoneum. It is, perhaps, needless to say, that the operation is not intended to cure the disease, but for a purpose which is however second in importance only to the cure, namely, to relieve immediate suffering and to prolong life.

POLYPUS AND POLYPOID GROWTHS.

The growths met with in the rectum, which for want of a more appropriate name, may be called polypi, are of various form, consistence, and structure. I propose to illustrate the different kinds of such growths that have fallen under my own observation. They have seldom if ever the same jelly-like consistence which belongs to the commonest form of polypus of the nose—the place in which surgeons are most familiar with such formations. During a series of years I have seen but a single example of very soft polypus in the rectum, and that was more consistent and more coloured than the vesicular or gelatinous growth of the nose usually is.

Soft polypus.

Case 82.—The soft polypus just alluded to occurred in a child from eight to nine years old. It was slender—the size of a small quill, about two inches long, and was bilobed at the end. But little inconvenience resulted from its presence; indeed, the fact of its existence became known only by its descent through the anus. The cure was readily effected by a ligature placed near the base, the part beyond being then snipped off.

Fibrous polypus.

Growths of firmer texture are by no means uncommon. These bodies are unyielding under pressure with the fingers, commonly pale red in colour, and fibrous or fibro-cellular in texture. The size is very various, especially as to length. I have often found them as pea-like prominences on the surface of the bowel, and also in lengths varying from half an inch to two inches and more, nearly cylindrical, and of the thickness of a common quill. And I have met with them, more rarely, as rounded tumours of small size, supported by short pedicles. The little sessile bodies are often detected one or two or even more at a time, when the bowel is examined for other disease. They seem to produce no inconvenience, and they require no special illustration. Not so, however, those of greater size; they often give rise to much annoyance. For instance:—

Case 83.—A young gentleman applied to me to be relieved from fistula; and there was, at the same time, connected with the side of the bowel towards its fore part, about an inch or an inch and a half from the anus, a polypoid growth two inches long, of the thickness of a full-sized goose-quill, and equally thick in its entire length. It was of pale-red colour, smooth and firm to the touch, but pliant. It was protruded at the anus with every evacuation, and on this account was much complained

of. When placed above the sphincter the inconvenience was at an end. With a double ligature passed at the base, I tied the growth and snipped it away beyond. The structure was what would be called fibro-cellular.

A different form of growth is illustrated in the following case :—

Pedunculated vascular polypus.

Case 84.—George G., aged 10 [Hospital Case-book, No. 12], was admitted with a small tumour occupying the orifice of the rectum. The following account was received of the case :—Five days before, having been at stool, the boy observed some blood upon his person ; but nothing appeared to account for the bleeding in an examination made by his friends. On the day of his admission, after straining at stool, the little fellow noticed that something still remained at the anus ; and there was also a discharge of blood from the bowel.

At the hospital, whither he was brought immediately, the nates were observed to be covered with blood, and a tumour was found engaged in the orifice of the bowel. It was the size of a small walnut, of bright-red colour, somewhat firm to the feel, but yielding under the pressure of the fingers. The connexion of the tumour with the bowel was by means of a long slender pedicle. A ligature having been applied, the pedicle was divided, and the case did well.

I have removed several growths of this kind, and from adults as well as children. The bleeding from them is constant during the evacuation of the bowels —that is to say, when the tumour has once descended so as to reach the anus, in the act of defæcation. The blood discharged amounts to about a teaspoonful, or more, each time. In a child aged three years, a patient of Dr. Samuel Richards, the loss of blood was ascertained by him to be 'from half to an entire teaspoonful every time the child had or attempted to have a motion.' After the lapse of more than a year from the operation, this child is now in good health, and there has not been since then anything amiss in the rectum. The tumour has commonly the colour of a mulberry, but is somewhat larger, and oval, being elongated transversely. The surface is smooth and usually smeared with blood, the vessels appearing tender and easily yielding so as to discharge their contents. But it is the surface only that I have found to be red and vascular. The interior is pale, without an appearance of blood, and seems to consist of fibro-plastic substance. These appearances were well seen in one of the growths which I lately removed from an adult with Mr. Hillier's assistance. The pedicle is always remarkably slender. It varies in length from about an inch to three inches.

Polypi and polypoid growths of the rectum, whatever their texture may be—whether soft, or firm, or spongy and vascular,—when they are not protruded

from the bowel, and not attended with hæmorrhage, produce no inconvenience, unless they should attain a large size, of which, however, no example has hitherto come under my notice. But when any such tumour is prolapsed it becomes the source of much annoyance, even of pain. This is owing, not to any sensibility in the body which descends, but to the irritation and the 'nisus' for removal of the foreign substance which its presence at the orifice of the bowel gives rise to. Hæmorrhage likewise may call for the removal of the unnatural growth; and hæmorrhage may arise even though the tumour should not be protruded from the gut*—the pedicle being fixed too high to admit of its protrusion.

* An instance which occurred in the practice of Mr. Craig and Professor Syme, is related in the work of the latter on 'Diseases of the Rectum,' p. 102.

VILLOUS TUMOUR.

This growth is a very rare one. Only a single example, in the rectum, has fallen under my observation, and it is the only one, so far as I know, that has been removed in an operation. The leading facts of the case are as follows :—

Case 85.—A lady, aged 68 years, who commonly had good health though not a robust person, began to suffer inconvenience in the lower bowel about seven years before she came under my care, and for the last two years she was in constant uneasiness or pain. I found that with every fæcal evacuation and even with the escape of flatus, a tumour was protruded from the bowel. The descent of the tumour was attended with a discharge of slimy mucus, and the loss of blood often to a considerable amount. The mass was replaced each time by a servant. The patient had become much enfeebled, and her face and lips and tongue were blanched, doubtless on account of the long-continued losses of blood.

The tumour, when partially prolapsed, was found to be a large pulpy mass separable into several loosely connected lobes, consisting of pencil-like processes, the whole surface being covered over

with blood and mucus. The connexion with the bowel was nearly three inches from its orifice and towards its back part. The pedicle was about two inches broad. I removed the growth, guarding against hæmorrhage with a ligature. On one occasion, about three weeks from the operation, there was a discharge of blood with the fæcal evacuation. But there was no return of the hæmorrhage, and with the exception mentioned, the patient did well uninterruptedly. Now, after the lapse of more than eighteen months from the removal of the morbid mass, this lady is free from inconvenience of any kind in the bowel, as well as from any indication of the disease.

The tumour was about five inches long by two in breadth. It was composed of elongated slender processes hanging loosely together upon a basis of white fibrous tissue. The processes resembled villi, but on a colossal scale, and were a little enlarged at the ends—club-shaped. They were highly vascular: arteries were detected even in the most minute; and it was observed by Dr. Jenner, that each was covered with a delicate basement membrane, over which was a layer of columnar epithelium. The broad characteristics of the growth seemed to me to be, the being formed of elongated processes—villi [whence the distinctive name]: the want of solidity or firmness—from the small amount of connective tissue: the extreme vascularity: and the slight restraint to the escape of blood, on account,

apparently, of the coats of the vessels being extremely thin and but slightly protected from without. When placed in spirit for preservation, the elongated mass, besides undergoing the usual change of colour, owing to the escape of blood, shrank into a rounded body the size of an orange, the villous processes, at the same time, shrinking in proportion.

An important question remains to be noticed, namely, whether the tumour is to be regarded as malignant or not? It seems to be identical with the growth which Rokitansky has named 'villous cancer,' and has described as being closely allied to the soft or hæmatoid cancer. The opinion as to its cancerous nature appears to be founded mainly on the arborescent appearance and vascularity, together with the resemblance in form to a growth found associated with obvious cancer.—It may be mentioned here, that I have lately had under my care in the hospital a case of villous formation of the same kind in the urinary bladder. It was a mass of slender elongated vascular processes, connected with the bladder near the entrance of the left ureter by a pedicle of smooth white fibro-cellular structure, about half an inch in breadth, less in thickness, and nearly an inch in length. Neither the lymphatic glands nor other organs were affected by this tumour. It was injurious, chiefly by copious and frequent hæmorrhage. The observation of this and the preceding case, and the history of a few

others, so far as they have been recorded, have led me to the opinion, that inasmuch as the morbid growth has not been found to involve neighbouring structures, or to spread through the lymphatics, or to affect the system except by the losses of blood, the best evidence, that upon which the surgeon can rely with most confidence as to the cancerous nature of a disease, is here wanting; and therefore, that notwithstanding the high authority of the distinguished Morbid Anatomist of Vienna, I am not disposed to consider the villous growth a cancer, or to follow him in naming it so.*

* For further information on this curious growth, reference may be made to the following works :—'A Manual of Pathological Anatomy,' by Carl Rokitansky, vol. i., translated for the Sydenham Society by William Edward Swaine, M.D., p. 290; also, 'Rudiments of Pathological Histology,' by Carl Wedl, translated and edited by George Busk, F.R.S., for the Sydenham Society; and 'Der Zottenkrebs und das Osteoid,' von Dr. J. Gerlach.

A full abstract of Rokitansky's views will be found in Mr. Paget's 'Lectures on Surgical Pathology,' vol. ii., p. 508.

SPASMODIC CONTRACTION OF THE BOWEL.

In some of the former lectures it was observed that the diminution of the calibre of the rectum from organic change was attended with the natural result in a corresponding diminution of the size and alteration of the shape of the fæcal substance evacuated. I have now further to observe that similar changes may occur although there is no permanent diminution in the capacity of the intestine.

Case 86.—A few years ago I saw a young gentleman, Master G., aged about 18 years, on account of some apprehension that he was suffering from organic disease of the bowel. Together with considerable uneasiness about the lower bowel—the colon and the rectum—there was much narrowing of the fæcal evacuations. For some time previously the patient had been engaged in very severe study continued for a great part of the day and in the night as well, and he had gradually been brought into a state of general depression accompanied with much nervous irritability. But he was free from the general symptoms of organic disease, and no stricture was discernible upon full examination. I therefore arrived at the conclusion that the narrow-

ness of the bowel was, in this case, owing to contraction of its muscular fibres. Not long since I learned from the physician with whom I consulted respecting the case, that our former patient has been in India for some years, and in good health,—free from the infirmity which has been adverted to.

Case 87.—I have known the evacuations to vary in size and form—said to be at one time slender as a quill, at another tape-like—in the same person, a female (who might serve as the type of a class) suffering extremely from uterine disease and nervous irritability. But the fact of the evacuations being at times of the natural appearance, taken in connexion with the absence of the other symptoms of organic disease and the result of the examination of the bowel, led to the same conclusion as in the foregoing case.

Case 88.—From a gentleman of middle age, who applied to me on account of an ailment about the rectum, I learned that he had been told nineteen years ago by a surgeon, a special practitioner whom he consulted, that he had a stricture of the rectum; and he was then treated for a short time with bougies, but without any perceptible effect. The fæcal evacuations are stated to be below the natural size, but not smaller than they were twenty-five years ago, when his attention was first attracted to their condition. They vary in bulk, and are sometimes of 'middling size.' This gentleman's general health is good; but he suffers from nervous excitability, which is

natural to him. His whole career in life, it may be added, has been influenced by the impression that he was labouring under a fixed disease requiring constant watching.

The want here of all the signs of stricture except one—and that standing alone an insufficient one,—the length of time since the first appearance of any affection of the bowel became manifest, and its stationary condition, to say the least, during that period, together with the additional evidence tending in the same direction derived from the examination of the bowel:—these circumstances are sufficient to prove that this is not an example of organic stricture of the rectum.

Contraction of the sphincter muscle, as we have already seen, accompanies ulcer of the mucous membrane that covers it. Of one of the examples of that disease (case 54) it is mentioned that 'while the size of the fæcal matter was (to use the patient's own words) no bigger than a tobacco-pipe, lumps of large size were passed after the operation without trouble. But from that complaint the spasmodic condition, which it is my present object to elucidate, is distinguishable by the absence of pain after defæcation. So, too, it is distinguished from permanent stricture of the gut, as already stated in the reference to the cases, by the absence of the general symptoms which characterise the organic disease, aided, where needful, by the result of examination through the gut. As it would be inferred from the foregoing

observations, that the diminished calibre of the intestine, as evidenced by the effect on the evacuation, is not in itself a proof of the existence of stricture properly so called, it should on the other hand be understood that organic stricture may be present without exercising any apparent influence in the way adverted to, for the effect might be lost before the substance is evacuated, if the stricture should happen to be at a considerable distance from the orifice of the bowel.

Of the treatment of spasmodic contraction of the bowel it is only necessary to say that relief is to be sought, not in local or mere surgical means, but in the removal of the nervous irritability of system—of that more general morbid condition upon which the spasm of the bowel depends; and accordingly the means must vary with the state and the constitution of the patient.

PRURITUS ANI.

This complaint consists in the presence of itching without any characteristic morbid appearance—at least any that is appreciable. The inconvenience it occasions is always annoying, often described as intolerable. It is singular that it should be so often met with in the neighbourhood of the anus as to require special notice. The circumstances under which I have known this form of pruritus to occur will be shown in the outline of a few cases. The treatment will be mentioned in the general observations which follow after the cases.

Pruritus arising without apparent disease, local or constitutional.

Case 89.—The patient was a gentleman over sixty years of age, of slender conformation and pale complexion, but with the appearance of good health; active in his habits, and very temperate in his diet. He suffered from the annoyance in question a few years before I saw him, and after having taken medicine prescribed by an eminent physician, was relieved. The complaint, however, returned after a good lapse of time, and it continued, notwithstanding the resort to the use of medicines under the advice of the same physician and others, as well as various

local applications. The itching was said to occur at irregular times, most frequently at night, but often also during the day. This gentleman had never been subject to any form of illness. He never had any cutaneous eruption, 'not even a spot.' Worms had never been noticed in the alvine evacuations; and 'they must have been seen' if any had been passed. There was not—there had not been any hæmorrhoidal affection. The only unsound part discoverable was a narrow strip of the skin behind and before the anus, where the opposite sides touch. The skin here was reddish, moist, and slightly abraded, resembling a patch of intertrigo. The morbid appearance, it was ascertained, had not preceded the pruritus. It was in all probability caused by the rubbing which that distress gave rise to.

I have lately learnt from Mr. Morgan, with whom I saw this patient, that he is once more relieved of his long continued annoyance.

Pruritus. Residence in an unhealthy situation.

Case 90.—A tradesman, of spare form, temperate in his habits, and aged about thirty years, has suffered during seven or eight years from pruritus. The itching is troublesome, especially when he is heated either by exercise or in bed. It is at times, he says, almost an intolerable irritation, and is always worst about the middle of the night, waking him from sleep, and hindering his rest for a considerable time. He has no other ailment except that in the morning

there is a sense of heat in his throat, and a disagreeable taste in the mouth. There is a very slight alteration from the natural appearance in the skin within the grasp of the sphincter; but this seems to have been consecutive to the pruritus.

A few years ago this patient resided at his place of business, which was in a low, damp situation in a large town, with an open brook near it. He and his family, including his wife, children, and servants, were then habitually in bad health. But the place of residence being changed to a little distance in the country, all the members of his household were quickly restored to full health, and have continued so. He himself, however, is still for the purposes of his trade ten or twelve hours a day in town, and at the same place, which, though the brook has been covered over, continues to be unhealthful. Some time since this patient having visited for a few weeks a town at a distance from his home, he was wholly relieved of the pruritus, and the relief lasted for two or three months after his return. Indeed, he always is better when he leaves his home even for a short time.

Pruritus accompanying a general cutaneous eruption.

Case 91.—A merchant, aged about 45 years, actively engaged in business, has been troubled for several years in the same way as the last case. He is a very vigorous person in body and mind. Though generally confined closely to business, he has been

in the habit of taking very active exercise at times, being fond of engaging in a pursuit which leads him to take long excursions in the country, and for the most part a-foot. The skin at both sides of the bowel is much thickened, and partly deprived of epithelium for the extent of about three inches by one inch. In this case there have been for years patches of lepra on different parts of the body. To the presence of some of that eruption at the part, the itching seems in a degree to be ascribable. It was for another complaint, the result of an injury, that this gentleman came under my care. With the circumstances detailed in the foregoing narrative I became acquainted incidentally.

I shall now mention a case or two, showing the pruritus accompanying, and apparently the effect of, actual disease of the rectum.

Pruritus with disease of the muco-cutaneous covering of the sphincter relieved by cure of the morbid condition.

Case 92.—A military officer, aged about 40 years, of full habit, has suffered extremely from itching, so much so, that for some time he has habitually avoided entering into society and taking exercise. Distressed often during the day, and unable to calculate on being free from the annoyance for a moment, he became worse at night. In this case I found an ulcer at the back part of the anus, together with some thickening of the integument within the grasp of the sphincter; and I ascertained that much

pain was felt during and after the action of the bowels.

By means of the treatment of the actual diseases, the pain was removed, and the pruritus was at the same time relieved. In some time after he had passed from my care, I learned, through Dr. Hoffmeister of Cowes, whose patient this gentleman became, that he continued free from pruritus.

A single example will illustrate the occurrence of pruritus where disease of the rectum had previously existed.

Pruritus supervening on long continued disease of the bowel.

Case 93.—The age was 56. The patient had resided a great part of his life in a warm climate, and he had suffered severely from diarrhœa. At a later period he became affected with hæmorrhoids, for which he underwent an operation. Long afterwards he came under my care suffering from very large hæmorrhoids,—which caused much distress, on account of their descent whenever he walked even a short distance, but without any loss of blood—and likewise from acute pain during defæcation and after it, occasioned by an ulcer. Both these complaints were wholly relieved by treatment. It was about a year subsequently that pruritus came on. At first it was confined to a mere point of the skin on one side of the anus. Soon, however, it extended to an equally small patch on the opposite side, and like-

wise to a little of the scrotum at one side where it touches the thigh. The general health was in all respects unexceptionable. The alvine evacuations were quite healthy. In the most careful examination, with and without a lens, no indication was discovered of change of structure where the uneasiness was felt. There seemed, perhaps, a greater prominence of sebaceous follicles, giving some appearance of more roughness to the skin, and yet the same thing was observed in other parts in which there was no itching. Change of colour, or abrasion at the part, or cutaneous eruption there or elsewhere, there was absolutely none.

The singular inconvenience exemplified in the foregoing cases, occurs in some instances without appreciable alteration of the skin, which is the seat of the painful pruritus,—case 93. The excoriation and thickening which are found in the part, arise after the complaint has existed for some time, and these changes are the result of the rubbing to which the pruritus gives rise,—cases 89, 90. The irritation is also associated with, if not occasioned by, actual disease in the parts. In one of the cases cited, it was connected with ulcer and some induration of the integument within the grasp of the sphincter, case 92; in another with fistula [in a young man lately in the hospital]; in a third, with a cutaneous eruption, case 91. Again, pruritus may be found to arise after disease has been removed, as

in case 93. The accompanying diseases were in these several instances, such as have no necessary connexion with pruritus. I am inclined to believe that the contact of the nates, with the heat and moisture thereby occasioned, contributes to the complaint.

I have not thought it necessary to narrate a case in which the pruritus was occasioned by the presence of small worms in the bowel, for the subject is sufficiently treated of in general works on medicine. I may add, however, that in my own experience, though I have met with examples occasionally, they have been much less frequently than might be expected from the statements in books.

In the general health of persons suffering from the complaint, there is commonly but little if anything amiss; and yet we cannot believe that there can be any departure from the natural state of feeling—any local pain or irritation without some fault either in the seat of the unpleasant feeling or some other, or in the system generally; and whenever there is nothing discoverable locally, I am disposed to believe that a general ailment, however little apparent or difficult to find out, is still the source of the distress. In case 90, the pruritus, it will be remembered, was to all seeming kept up merely by the person's staying for some hours daily in a depressing atmosphere. The kind and the cause of such general ailment I believe to be various. I have known a change of residence fail to afford relief, although beneficial to the general health.

Age does not seem to have material influence as regards this complaint. I have had under my care persons suffering from it whose ages varied from eighteen to seventy.

In the treatment, the first aim must be to ascertain if any actual disease, local or general, exist. If there should be, the remedy for it must be first applied, for, with the removal of the morbid state, the pruritus may likewise be removed,—case 92. But, if no appreciable local disease should be present, as shown in some of our cases, then certain local applications are useful. I have found the following to be advantageous:—Astringent lotions with opium: chloroform in cerate: alkaline solutions. For the removal of that defect in the state of the system which I presume to exist where no local malady is discoverable, general management, hygienic and medicinal according to the circumstances of the case, should be carefully applied.

FÆCAL ACCUMULATION.

FROM the changes of structure, the morbid growths, and other affections of the bowel itself, which have been the subjects of the foregoing lectures, I now turn to notice the inconveniences produced by matters contained within the canal, and shall notice first certain modifications of its ordinary contents, which occasionally load and even obstruct the rectum.

Fæcal accumulation.—In aged persons, especially females, bed-ridden or leading very inactive lives, and in whom the nervous sensibility is more or less dulled, fæcal matter is now and then found to accumulate, and, in time, to become so large and hard as to resist the natural expulsive action of the bowel. Though this inconvenience is most liable to occur in the aged and infirm, an example is now and then met with under other circumstances. For instance, one of the largest accumulations of the kind that I have known was in a man aged about forty years, who had been confined to bed for a few months on account of disease of one of the knee-joints. He was a person of melancholic temperament. The bowels had been reported as acting

with regularity. In the dissection, the rectum, near its lower end, was found to form a large pouch, loaded with hardened fæces. It may be added that, in this instance, two valvular folds of the rectum of much larger size than usual were met with. They were more than an inch in breadth, and seemed like crescent-shaped shelves projecting into the gut, one opposite the prostate, the other about four inches higher. The circular muscular fibres fully occupied the fold of mucous membrane, and even the longitudinal fibres dipped slightly inwards at their bases. The greatest part of the fæcal accumulation was connected with these valves.

Case 94.—A few months since my assistance was required for a case, in which the pouch of the rectum was filled with a rounded mass appearing as large as a full-sized orange, smooth on the surface, coated over with mucus, and of considerable firmness. It resembled a firm polypus to the feel, and indeed it was under the impression of its being a growth of that kind, that I was called upon to remove the mass. I was enabled, however, to determine it to be a ball of fæcal substance. The patient was a lady in middle life, and she appeared to be an active person of lively temperament.

In such cases the insufficiency of the natural evacuations is often not suspected until obstruction or some local distress has arisen, as there is still a discharge of fluid fæcal matter around the stationary mass.

Inasmuch as the substance is usually placed at but a short distance from the orifice of the bowel, it admits of being removed by mechanical means. A scoop, such as is used in lithotomy operations, or any convenient substitute for that instrument, well guided with the finger, or, indeed, the finger only in some cases, will be sufficient for the purpose. But caution is required in the manipulation. I have known the orifice of the bowel lacerated in the process. The injection of oil has been proposed to aid the mechanical appliances, but as the body to be acted upon is moist upon the surface, oil is little likely to have any effect upon it. Soap and water, or water alone, will probably be more useful in penetrating and softening the accumulation. And in order that it should assist the process of removal at all materially, the fluid is to be permitted to remain in the bowel for a time before the operation is undertaken. That expedient was not, however, required in any of the cases I have had to deal with.

ALVINE CONCRETIONS.

Masses more or less solid—concretions—have been found to occasion pain and obstruction in the bowels, having been arrested at different parts of the great intestine, including the rectum. The investigation of their structure has shown them to be formed of particles of indigestible matter swallowed in the food. They will necessarily vary in their nature with the nature of the food. I shall first refer to those formed of animal substances, and then briefly notice those of vegetable origin. To begin with a case :—

Extreme and continued pain in the abdomen. Obstruction of the evacuations for a time. Removal of a large mass from the bowel in six weeks from beginning of the attack.

Case 95.—Mr. T., aged 56, a gentleman of robust frame, and usually in good health, was seized, in the latter part of 1854, with pain in the abdomen (colic), while exposed to cold. This soon went off; but in three days subsequently it returned after dinner and became worse than before. Enemas were used at first without unloading the bowels or allaying the pain. Relief was obtained with opium.—This patient suffered intensely from another complaint which came on at the same time; but as it has no

direct bearing on the subject immediately under discussion, further allusion to it is unnecessary.

After a time the bowels were brought to act pretty freely by aperient medicine, but chiefly by the enema. Still he continued to suffer, though most from the ailment not related here. At the end of six weeks from the outset of the abdominal pain, a large mass appeared at the orifice of the bowel. It was helped away by Mr. Fitzmaurice, in consultation with whom I attended the case.

Progressively the patient recovered from all his suffering. He is now in good health. The bowels act well. He continues, however, to have some inconvenience from the effect of the secondary ailment before referred to.

The mass removed from the bowel was about eight inches long and six in circumference when measured without being compressed. It was coated over with adhesive puriform matter, and the smell was intensely disgusting. It was soft, pulpy, and when washed looked like flesh bruised and soddened in water, the parts however cohering with tenacity.

Under microscopical examination it was found by Mr. Quekett to consist of a series of filaments resembling those of lymph, amongst which were entangled a quantity of foreign substances derived from the food. These were made up of fragments of muscular fibre, of starch, and the hairs of plants. The central part was much firmer than the rest, and appeared to contain branched tubular portions of

blood vessels, but no trace of involuntary muscular fibre, or anything that could be called mucous membrane was detected. That is to say, there was no trace of the mass containing any part of the bowel from which it was evacuated.

To the foregoing case may be appended one, the history of which, together with the masses voided from the bowel, was communicated to me several years ago by Dr. Rayner of Stockport, now Mayor of the district, in whose practice it occurred.

Case 96.—The wife of a hatter, aged 28 years, in the latter part of the year 1842 began to suffer with pain in the abdomen, which gradually became more and more violent, recurring in irregular paroxysms, and accompanied with slight distension of the belly. She was first seen by Dr. Rayner on the 3rd of February, 1843. He found the patient's pulse at 120, the abdomen a little distended, the bowels acting regularly. There were 'occasional attacks of pain in the abdomen, which were so violent that she threw herself out of bed on the floor, and dashed her head against the wall. The attacks became more and more frequent, recurring three or four times a day. To allay this suffering, two grains of the acetate of morphia, or a drachm of the liquor opii, had but little effect.' 'Summoned in haste on the 21st February, on account of violent paroxysms of pain of unusual duration, I found (the report continues) the larger of the two masses I send you partly protruding through the anus, and

embraced firmly by the sphincter. To extract it, required a good deal of manipulation. The smell from it was intolerable. As soon as that was removed, the second mass immediately presented itself, and was also removed, but more easily than the former. The appearance and smell were the same.' Another lump, said to be of larger size than either of these, had been voided before Dr. Rayner arrived with the patient. But that one was thrown away without his seeing it; and a fourth, a smaller one, was parted with after he left her. There was no further attack of pain; the patient now rapidly regained her health. 'Since then (says Dr. Rayner, writing in 1846), Mrs. —— has had a child, although she had been previously married eight years without having had any. She is now in good health.'

The masses voided from the bowel are circular and flattened, measuring, each, nearly four inches in diameter, by an inch and a half in thickness. The texture of both is the same. It is homogeneous throughout, and so tough, that, like the thick elastic coat of an artery, it does not admit of being unravelled in order that it might be ascertained whether it consists of cells or fibres. Moreover, although one part had been boiled in ether and another macerated in water for several weeks, the cohesion still remained. They seem composed of lymph. This is the substance of Mr. Quekett's report respecting his endeavour to subject the structure to microscopical examination.

During our examination together of the substances passed from the bowels in the two foregoing cases, Mr. Quekett informed me that he has at different times had submitted to him for examination a variety of substances voided in the same way, but in small quantity at a time, to which, from the singularity of appearance they presented, attention had been drawn by the patients; and he has obligingly furnished me with a statement, which I insert as instructive in itself, and as still further explanatory of the source from which such masses as that mentioned in case 95, may be derived. Among the substances were certain tubular and membranous pieces, which he found to consist of 'portions of arteries, and veins, and fasciæ, with in some instances nodules of fat entangled in areolar tissue.' As many as nine cases have come under his examination, and in each, pieces of arteries were readily detected. 'All the patients who voided these substances were, as far as could be ascertained, dyspeptic; and the usual meat diet prescribed by the medical attendants was mutton, in the form of chops.'* Mr. Quekett adds:—

* The following case is told in Mr. Quekett's words:—'One of the patients, a female, is well-known to me. She is upwards of fifty years of age, and her meat diet, for a considerable time, consisted solely of mutton-chops. At intervals of a fortnight or three weeks she suffered great pain in her stomach and bowels, and after passing a considerable quantity of what was subsequently ascertained to be portions of blood-vessels, of flakes of membrane mixed with fat, and of areolar tissue, she was relieved. The quantity passed at a time varied according to circumstances, sometimes the mass was not larger than a walnut, whilst at others it exceeded in size that of an orange. This female,

'In most cases the portions of artery are about three fourths of an inch in length, and entirely deprived of the cellular coat. In some few instances artery and vein have been found in juxtaposition, but they are generally separate, and can be distinguished by the differences in their microscopic appearances. The short portions of artery which preserve their tubular character when placed in fluid, have invariably been regarded by the patients themselves as joints or fragments of worms, and on this account have excited alarm.'*

Like the small pieces noticed in the foregoing observations, vegetable concretions of small size are

having lost many of her teeth, was unable to masticate such tough and elastic structures as those above mentioned, which will account for the great length of some of the pieces of artery, many of which were upwards of two inches. When directed to eat only the fleshy portion of the chop, her health became better, but when the bone was thoroughly cleaned, the distressing symptoms returned.'

* 'As early as the year 1835, the late Dr. Todd of Brighton had noticed, and had even preserved in his collection of microscopic objects both fragments of arteries and of fasciæ: in the year 1842, Dr. Arthur Farre, in a communication to the Microscopical Society, 'On the minute structure of certain substances expelled from the human intestine,' pointed out that many of them had all the external characters of shreds of lymph or false membrane, whilst others were tubular. On microscopic examination, he found them to be composed of very minute fibres, having transverse striæ, and he considered them to be of a confervoid type. Recent investigation, however, has convinced me that all the tubular portions are fragments of arteries and veins, and the membranous ones portions of fasciæ. The transverse striæ, which most of the fibres present, are either the result of cooking or of partial decomposition, as has been pointed out in the case of the yellow elastic tissue of the sheep, the horse, and the giraffe.'—Extract from Mr. Quekett's communication to me.

formed, and commonly escape observation. From time to time, also, large masses have been found lodged in the colon or rectum. Some of these bodies are rounded, others irregular in shape. They are very light, of brownish-yellow colour, the surface commonly smooth and velvety; while a few are harder, and studded with hollows or depressions. With the yellowish principal constituent is often found mixed, in varying proportions, a whitish saline substance, formed of earthy phosphates. When divided, the greater number of these concretions show an arrangement in concentric layers, and there is often a nucleus—the stone of a fruit, or some other hard body. Around this, as a centre, the vegetable fibres appear to gather, and these being felted, as it were, together, constitute the concretion.

The nature of such formations was long unknown, and was so probably because of the examinations made with a view to discover their composition having been chemical and destructive of their natural appearance. At length, almost in our own times, Dr. Wollaston ascertained that they were derived from oats.* 'If the oat be denuded of its

* The discovery was thus made :—Dr. Wollaston found the velvety substance of the concretion to consist of 'minute vegetable fibres, pointed at both ends, and conjectured them to arise from some kind of food peculiar to Scotland. For some time, however, he failed to trace this substance to its origin. But the ingenious Mr. Clift, of the College of Surgeons, having put the question, 'whether the fibrous substance might not proceed from oats ?' Dr. Wollaston examined the seed, and the result verified the conjecture.'—'An Essay on the chemical history

husk, minute needles or beards, forming a small brush, are seen planted at one of its ends.' These were found by Dr. Wollaston to be identical with the fibres of the concretion.* A good number of the 'oat-hair concretions' have been found in Scotland;† and of the large collection in the Museum of the College of Surgeons, most seem to have been met with in the practice of surgeons living in some of the northern counties of England.‡ Obviously, however, locality has no influence as regards liability to the production of these bodies, except in so far as the food commonly used by the people is concerned.§

and medical treatment of Calculous Disorders, by Alexander Marcet,' 2nd edit. p. 139.

* Ibid.

† A full account of them, and much information on the subject will be found in 'The Morbid Anatomy of the Human Gullet, Stomach, and Intestines, by Alexander Monro, Jun.' Edinburgh, 1811.

‡ Yet the earliest of the concretions that I have seen a notice of occurred at Romford, in Essex. It was in 1655. They are of large size, and are preserved in the Museum of the College of Surgeons. The history of the case is told by Dr. G. Thomson, in a very strange book, entitled, 'Galeno-pale; or, a Chymical Trial of the Galenists,' &c.

§ The food of a young man who died from the presence of a large concretion in the arch of the colon, is thus stated by Mr. Children.—'Chamber's (the sufferer) usual diet was milk-porridge twice a-day, viz.: at breakfast and supper; the milk thickened with oatmeal. His dinner commonly consisted of meat and potatoes; he rarely took any other kind of vegetable, and always ate oat-cake at his dinner. In the afternoon he ate oat-bread and cheese, and drank beer; so that he never took a single repast without oatmeal in some shape or other.'—A plumstone was the nucleus in this case, and pain of the abdomen is said to have begun after the person had eaten largely of unripe plums.—'On some alvine concretions found in the colon of a

Concretions formed of various other substances have been met with,—even drugs, when insoluble and their use continued for a long period, as magnesia and the carbonate of iron.

As most of the bodies above referred to do not admit of being broken down, they are best removed, if in rectum and within reach, with a pair of lithotomy forceps.

young man in Lancashire, after death, by J. G. Children, F.R.S.' :— 'Philosophical Trans.,' 1822.

FOREIGN BODIES.

It very rarely happens that occasion occurs to remove a foreign body from the rectum,—much more rarely, in my experience, than from the other 'outlets' of the body. Those that are liable to be met with are either forced in by the anus or they reach the rectum after passing through the rest of the intestinal canal, having been accidentally swallowed. Some curious examples of objects introduced directly into the lower bowel will be found in general treatises on surgery, copied one from the other, and beginning for the most part with the Memoirs of the French Academy of Surgery.* Among these are instances of bottles, pieces of wood, and various other objects introduced to relieve constipation,† or even with a view to the commission of suicide.

* M. Morand.—'Collection de plusieurs observations singulières sur des corps étrangers,' &c., in 'Mémoires de l'Académie Royale de Chirur.' T. iii.

† A case may be briefly mentioned in this place by way of illustration.—A gentleman who had suffered habitually from constipation, 'by the advice of a practitioner whom he consulted in Paris, daily introduced into the bowel a piece of flexible cane (about a finger's thickness), where it was allowed to remain till the desire to evacuate fæces came on.' For more than a twelvemonth this plan succeeded; but at length having been passed hurriedly, the stick 'was sucked into the body,' and it slipped beyond reach. It was in seven days after that the surgeon was called. The lower end of the stick was beyond reach, but it was touched with a bougie, and the opposite end was 'felt projecting midway between the ilium and the umbilicus on

Long forceps, those, for instance, used in lithotomy operations, will afford sufficient assistance in removing such bodies in most cases. The introduction of the hand of the operator into the bowel may be required; but the ingenuity of the surgeon must be exercised to adapt the means to the peculiarities of the case. If the object should be of glass, it will be necessary to guard the bowel from danger during the operation.

The objects introduced directly into the rectum are comparatively large-sized, and this circumstance occasions difficulty in their removal. On the other hand, those that are swallowed are very diminutive. It will not, perhaps, be out of place to prefix to the observations on the foreign bodies which reach the rectum from above, some account of those which are stopped by the way. Small objects have been occasionally found, instead of passing off with the fæcal evacuations as they commonly do, to accumulate in the canal, in some unaccountable way, so as to form large masses. The stones of fruit—of plums and cherries—bullets,* and, stranger still, pins† have

the right side,' and here the slightest pressure caused pain. The stick was removed by means of the hand passed into the bowel.—H. L. Thomas in 'Medico-Chirurgical Trans.,' vol. i. p. 129.

* A man, aged 32, had suffered for a considerable time from nausea and vomiting. In the middle of the abdomen was a tumour, lumpy on the surface, and moveable under the pressure of the hand. He died with peritonitis. The lower end of the ileum, which was dilated into a pouch as large as the head of a fœtus, contained 120 kernels of plums and cherries, and 92 bullets.—Dor. 'Observations Cliniques faites à l'Hôtel Dieu de Marseille.' Thèse No. 18. Paris, 1835.

† A female, aged 41, well formed, of good intelligence, mother of

been discovered, forming such masses in the duodenum, and close above the ilio-colic valve. It is remarkable how little injury vast accumulations of this kind have occasioned for a long space of time. The fact may in a degree be accounted for by the slow growth of the mass. The objects, moreover, so accumulated were not generally calculated to wound the bowel; even the pins found in masses were doubled up before being swallowed. If the bodies which had been so heaped up in the angular and more fixed parts of the canal, had reached the rectum they would doubtless have passed off with the fæcal evacuations.

But sharp objects injure or perforate the intestine. Those most frequently met with are pins and small bones—the spines of fish bones especially. Pins have been known to follow very devious courses to the surface of the body, after having perforated the pharynx or œsophagus. I have seen in the dissecting room three or four pins altered in colour nearly to black, laid in the great omentum, to which they had passed from the stomach, most probably. In 1842, the late Mr. Bolton Hodgson of Chesham, sent

several children, had been attacked at intervals for some years with sickness and vomiting, sometimes of blood. In the examination of the body, pins were discovered in the stomach weighing nine ounces; and in the duodenum where they were tightly packed, the quantity found amounted to about a pound in weight. The pins were bent head and point together in a thimble, from which they were taken with the tongue. It was ascertained that the person had a habit in her childhood of eating starch and slate pencil.—J. Marshall in 'Med. Chirurg. Trans.,' vol. xxxv.

me a preparation taken from the body of a person in whom death had resulted from the opening made by a pin in a large artery. The leading facts of the case were as follows :—

Case 97.—L. Sorett, aged 20, a blacksmith, while shoeing a horse was taken faint and sick, and in a few hours discharged a large quantity of blood by stool. The next day he returned to his work, but a second attack compelled him to desist again. He was found by Mr. Hodgson pale, with hæmorrhagic pulse, making no complaint, but the right iliac region was a little tumid and tender. Another large discharge of blood occurred, and the patient died. The first loss of blood was on a Wednesday; the man worked at his trade on Thursday and Friday. On rising from bed on Saturday morning, he fell headforemost out of bed. He died on Sunday.

The report of the dissection states that when the intestines were being removed, a small sac or abscess was cut through, in which lay a pin with the point resting in the common iliac artery. The sac of the little abscess adhered to the blood vessel just named, and was found to be continuous with the vermiform process of the bowel, which was enlarged and thickened. It probably was the end of that process altered —degenerated. Except at its point the pin was covered over with an incrustation, and so was retained in the appendix of the cœcum, but with sufficient intervening space for the passage of blood into the bowel. There was only a little blood in the large intestine.

In the abdomen there was a great quantity, which had escaped from an opening in the little sac containing the pin.

A case in some respects similar, differing however, in the absence of injury to a blood-vessel and hæmorrhage, is recorded by Mr. Prescott Hewett.*

In connexion with the foregoing examples of foreign bodies finding their way into the appendix vermiformis, may be placed others in which objects were observed to escape from the intestinal canal through the umbilicus.

Case 98.—Thomas M., aged 28 years [Hospital Case-book, 17], about three weeks before, while walking in the street, felt a pain at the navel, and was surprised by finding a discharge of matter at the part. In a week a swelling occurred with some redness around the umbilicus. On his admission to the hospital, redness and induration existed at the fore part of the abdomen to the extent of from four to six inches in diameter, and in the middle of this, instead of the hollow of the umbilicus, was a projection about the bulk of a child's finger, measuring three quarters of an inch in length, and half an inch in diameter. It consisted of the remains of the umbilical cord unfolded. In the free end of the little projection was an opening, through which a probe passed for the length of an inch; and underneath it was another opening by which pus escaped when pressure

* 'Proceedings of the Pathological Society of London,' Third Session, p. 58.

was made on the swelling of the abdominal wall. In dressing this part afterwards the House-surgeon (Mr. Briggs) observed a small body, in all respects resembling an orange pip, pass from the aperture in the under surface of the cord; and at a later period another body was found on the poultice. The latter, there could be no doubt, was a bean. The hilum was distinct, and it consisted plainly of two cotyledons. The patient stated, moreover, that he used now and then to eat a few of the beans he was in the habit of giving to his horses. After this the inflammation and discharge of pus decreased steadily, the fragment of the umbilical cord turned in again, and when it had passed out of sight, the parts resumed their ordinary appearance.

The foreign bodies in this case, it is most probable, were conducted to the umbilicus by a diverticulum—a result of the connexion in the fœtus between the duct of the umbilical vesicle and the bowel.

Case 99.—At the same time that the last case was in the hospital there was likewise a boy aged 13, who had a very small fistula in the middle of the umbilicus. He connected this with the fact of his having been bruised across the belly by wheeling a barrow pressing against the part some months previously. Through the opening in the middle of the navel, a very slender pin-like bone (the spine of a fish bone) escaped after a while, and the part then healed up. In this instance the little bone may have passed, as conjectured for the preceding one, through a diver-

ticulum, or it may have perforated the bowel and the umbilicus.

Should any sharp object passing along the intestine reach the rectum, it is likely to be arrested by the sphincter ani, and there to perforate the bowel. Accordingly abscess, occasioned by the wound of a sharp bone or pin and its presence in the wound, has been repeatedly met with in this situation. A stricture would have the same effect in stopping the course of the foreign body. I have already referred to the obstruction of the evacuations caused by a plum-stone arrested in a stricture, case 58. Examples of even death having resulted from the effect of a bone so arrested by a stricture of the bowel have been observed.* Gregory is said to have regarded such a body fixed in the gut as the cause (in one case at least) of stricture.† But a small bone

* Dr. Barlow has recorded the following case :—A female, aged 46, was admitted into Guy's Hospital, having suffered from constipation during thirteen days. Her health had been good until two months before, when she suffered from constipation and difficulty in passing her motions. Vomiting and abdominal pain were urgent. The means used for the relief of this patient were ineffectual ; and she died in six days after having entered the hospital. On examination of the body, recent lymph was found glueing the intestines together ; a stricture was discovered at the commencement of the rectum, ten inches from the anus. It had a greenish colour ; and it was not very hard. It admitted the passage of the little finger and contained a small fish bone. The intestine above the stricture was distended with fluid. The remaining viscera were healthy.—'Report of the Proceedings of the Pathological Society of London.' First Session, 1846-7, p. 93.

† The case is briefly as follows :—The patient had been suffering 'for three or four years from frequent attacks of pain in the left flank and obstinate costiveness, alternating with diarrhœa.' He died of

has been known to remain for many years in the coats of the bowel without inducing any such evil effect.*

As the sharp bodies to which reference has now been made are likely to injure the intestine, and give rise to abscess when arrested at or near the sphincter, it will be right to make a careful examination in the event of abscess being formed in the situation, so that if such substance should be present it may be removed. And in case of obstruction of the bowels it will be prudent to include the rectum in the careful inquiry to be made into the state of the intestinal canal.

obstruction and peritoneal inflammation. In the dissection, besides the evidences of acute peritonitis, a stricture was found at four inches from the anus. It was ulcerated upon the inner surface; and, fixed there, 'penetrating through it, was a small fish bone about an inch in length, apparently that of a flounder. It seemed to have been a long time lodged there, as it was become quite black at the end that had so penetrated.'—J. Gregory and Dr. Kerr in 'The Morbid Anatomy of the Human Gullet, Stomach, and Intestines, by A. Monro, Jun.' Edinburgh. 1811.

The preparation 1255, in the Museum of the College of Surgeons, shows, at the distance of six inches from the anus, 'a very close and narrow annular stricture' and ulceration of the mucous membrane, with a fish bone fixed in the part. The person from whose body it had been taken was a female, five months advanced in pregnancy. She had suffered from sickness, vomiting, and obstruction of the bowels, and she died in three days from the commencement of the attack.

* A gentleman applied to the second Monro 'on account of a large flat tumour in the cellular substance above the sphincter, which created much uneasiness.' He was not relieved; but in 'eighteen years afterwards the patient perceived a small hard substance, which proved to be a small bone.'—A. Monro, Jun.—Op. Citat.

EXPLANATION OF THE PLATES.

PLATE I.—The lower end of the rectum laid open is seen from within. The mucous membrane has been removed from the upper and the lower parts, but it still remains over the middle. *a*, The arteries of the lower end of the gut, contrasting with *b*, those at the upper end. *c*, indicates the mucous membrane. See page 32.

PLATE II.—A small piece of the gut seen in the same way, from within, and showing, by the removal of scraps of the lining membrane—*a*, Arteries; *b*, Veins; and *c*, Hæmorrhoids, in an incipient stage, consisting of fusiform dilatations of veins.

PLATE III. The rectum, with large veins on its outer surface, and perforating its walls; with hæmorrhoids, seen to be lower than the skin, and encircling the anus. *a*, The sphincter ani, notched at the middle, and here are seen pale subjacent fibres; *b*, The levator ani; *c*, The margin of the skin; *d*, Hæmorrhoids projecting beyond the sphincter and the skin; *e*, Veins. A piece of metal passed through the gut shows piles at each side. See Case 17, page 72.

PLATE IV.—The bowel being partially laid open and stripped of the mucous membrane, enlarged and tortuous veins are shown terminating in the hæmorrhoids, which are seen to hang below the sphincter.—This drawing has been taken from the case represented in the preceding figure. *a*, The cut edges of the bowel at the upper end of the division; *b*, the sphincter; *c*, hæmorrhoids, where cut through; *d*, the veins outside the gut; *e*, the veins within, seen to be large and tortuous.

THE END.

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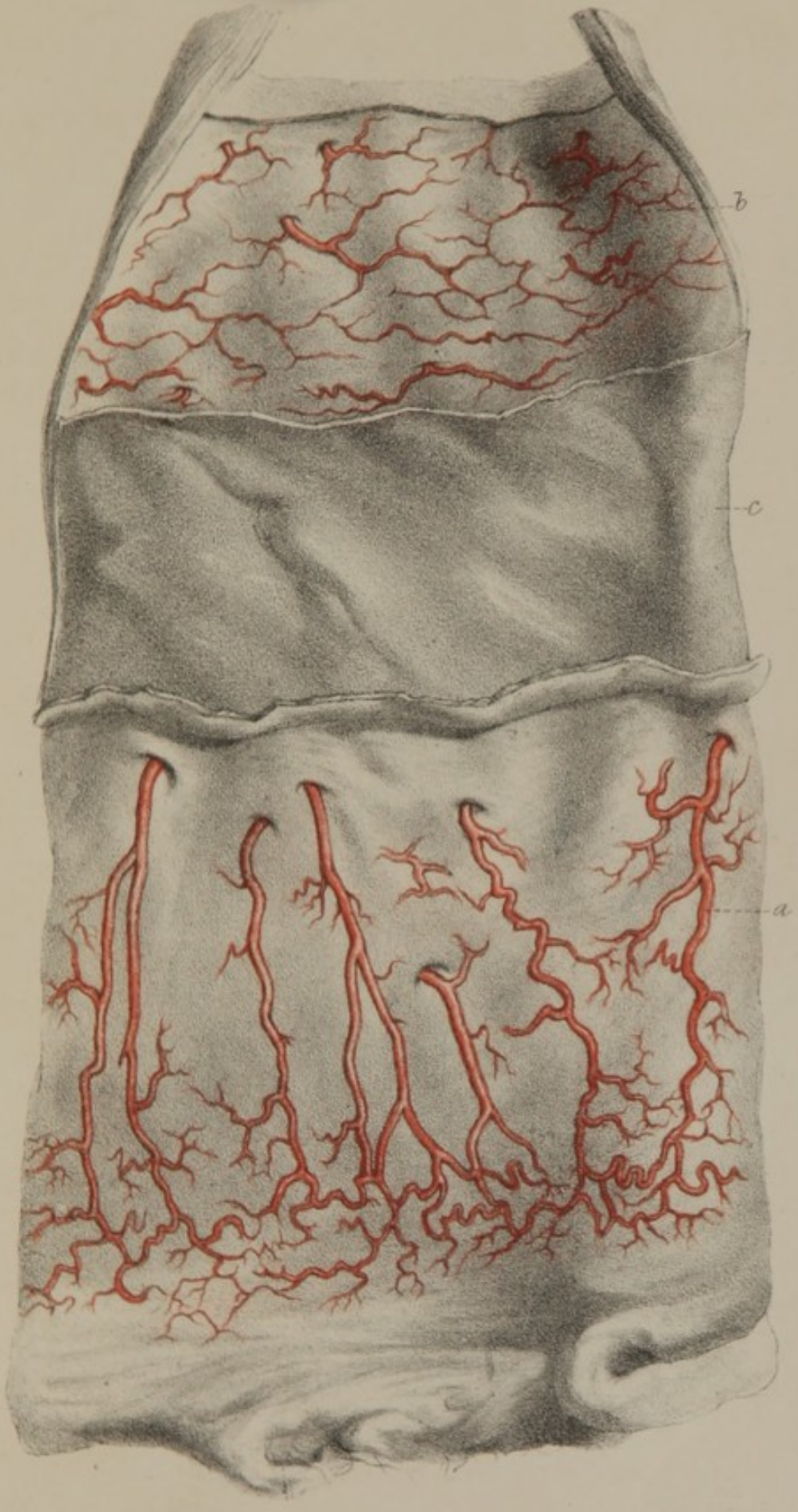

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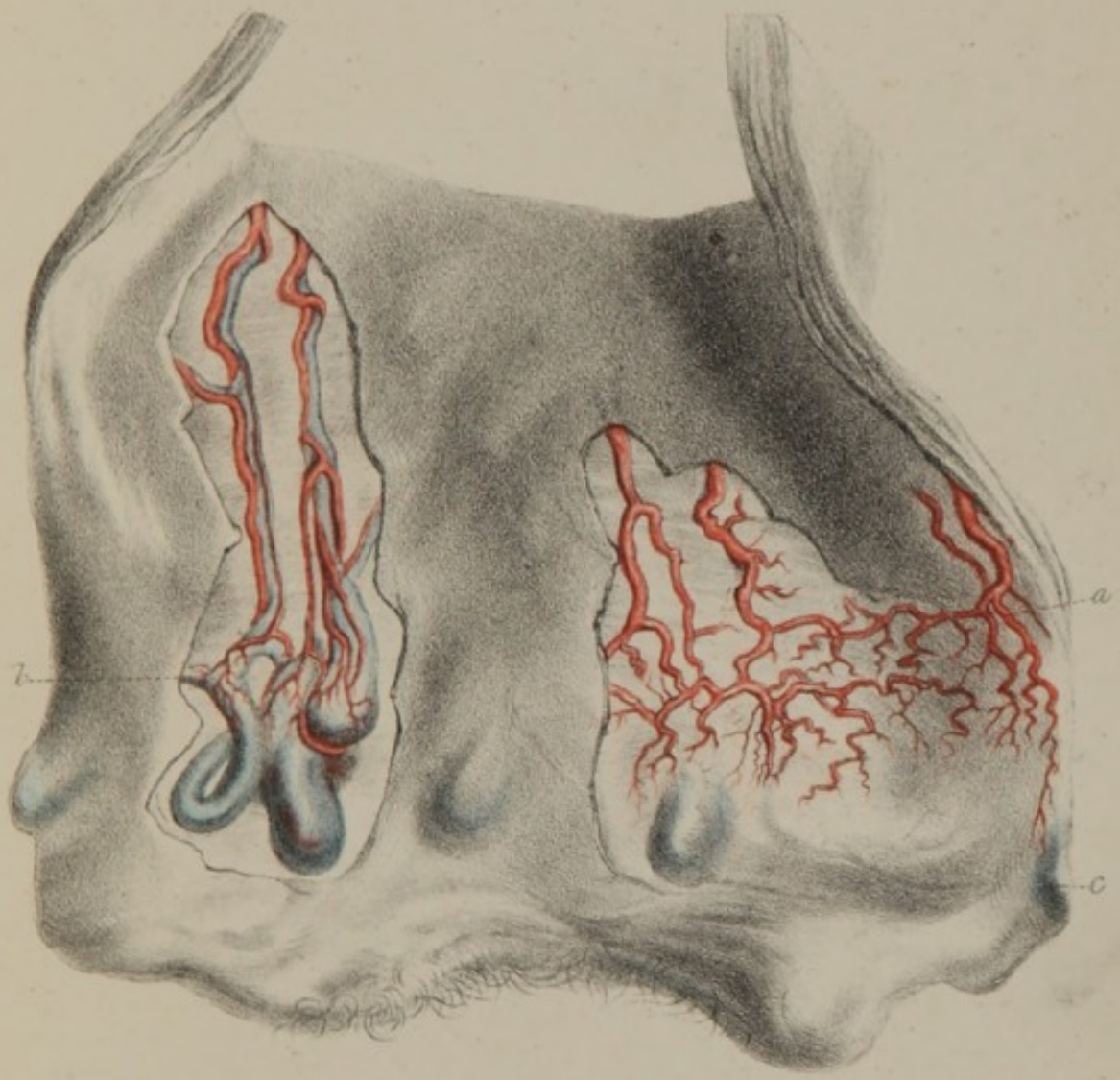

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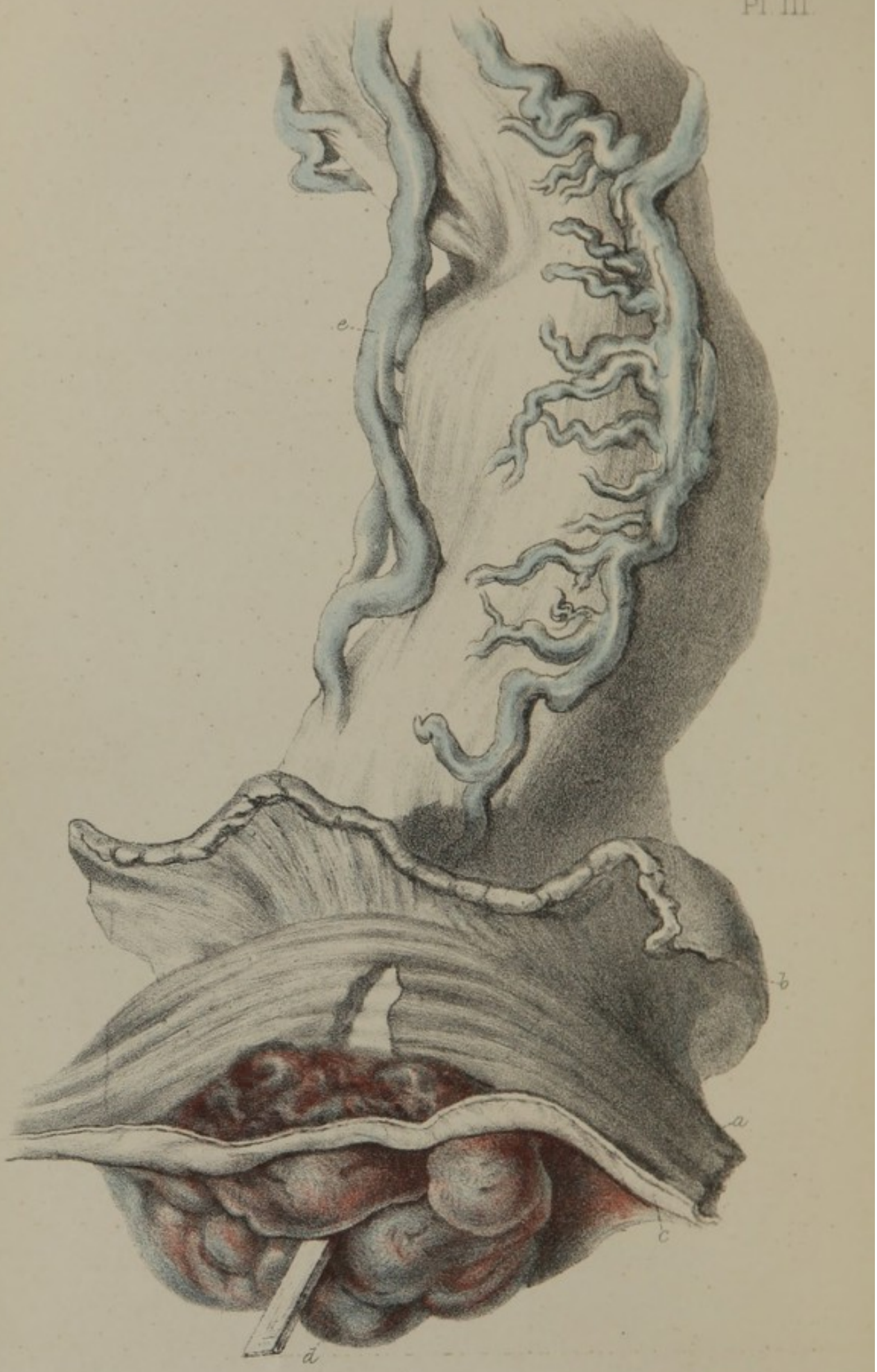

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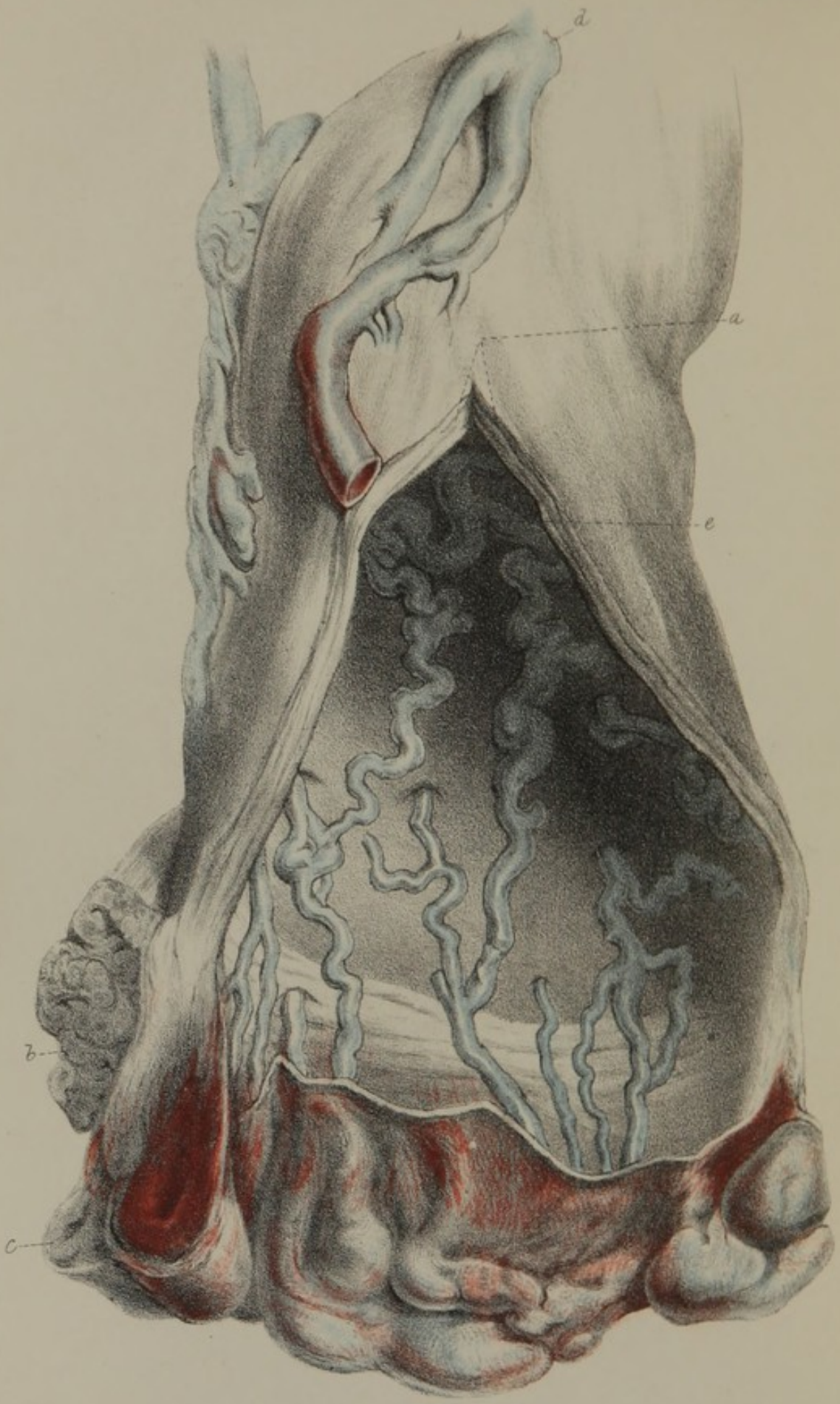

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