In the remaining six cases the uterus was brought down cervix first in a zigzag fashion, the attachments being tied in portions, first on one side then the other. In one of these the broad ligaments were so short and inelastic, that in addition the uterus was bisected. The best rule is to retrovert the fundus out of the posterior wound, and bring the whole outside if possible; failing this, to try whether it can more easily be brought down out of the anterior wound, and, if the attachments are short or inelastic, to bring it down cervix first.

I have always brought together the anterior and posterior walls of the vagina at the summit; if possible, passing the ligatures through the stumps of the broad ligaments, so as to fix them in the wound. One strong catgut ligature is passed from behind forwards, and then reinserted and passed through the parts in the opposite direction; the two ends are then tied together. This does not prevent a little drainage, if necessary. Several times a drainage tube was left in, but, as nothing came away, this plan in the later cases was discontinued.

In addition to these cases there have been done four supravaginal hysterectomies. The results were not so good as those from the complete operation. One died within twelve hours from shock and hæmorrhage, but she was very anæmic from hæmorrhage before the operation. In two the disease returned at intervals of respectively seven months and two months. The remaining case is still free from disease. The operation was done on November 6th, 1886, and she was examined at the infirmary on September 24th last, that is, nearly five years afterwards. The operation was very radical, for not only was the cervix removed just above the os internum, but a conical piece of the interior was also gouged out higher up and the mucous membrane of the remaining part firmly scraped with a Volkmann spoon. This, therefore, with the five permanent cures by the complete operation, making six lives saved out of the total—sixteen.

Although undoubtedly this supravaginal operation has its place, it should be a very limited one. I think it ought to be confined to early cases of squamous epithelioma. It is not only less safe as a means of eradicating the disease, but it takes longer to perform, and is quite as difficult as is complete extirpation. I think, moreover, there is greater danger of secondary hæmorrhage. It is, however, decidedly preferable to complete extirpation in the cases named, and especially if it is not necessary to remove the cervix so high as the os internum. Both posteriorly and anteriorly, a funnel-shaped excision of the mucous membrane should be made. In 1876 I removed the cervix only in this way, and the patient remained well for twelve years. She then came amongst the infirmary out-patients with cancer of the interior of the uterus. I have not included this case with the others because it was not a proper case of supravaginal amputation.

The concluding sentence of Dr. Keith's paper is this: "Operated on at an early stage uterine disease will show results not much inferior to operations for cancer in other parts of the body." Three years ago I published my theory of malignancy. This has not yet been accepted by the profession, but it will be some day. According to this theory cancer of the uterus ought to show better results than the same disease in any other organ of the body removable by operation, and, as a matter of fact, it actually does. Proliferation is liable to occur in nearly all the tissues of the body, but it is only malignant when the proliferating cells are able to separate from each other, and are of the size and shape and hardness to penetrate the tissues through which they emigrate. The uterine tissue is such a dense and closely woven fibrous network that it is probably penetrable with greater difficulty by what may be called travelling cells than any other organ of the body. The chance, therefore, of a permanent cure of cancer of the uterus by early removal is not, as said by Dr. Keith, "not much inferior to," but it is actually superior to that given by removal of the disease in any other organ of the body.

DR. GAGER, of Paris, has bequeathed to the Association des Médecins of the Seine Department £800, and £1,400 to the Bureau de Bienfaisance of the 19th arrondissement, the interest of which is to be utilised to facilitate the aged and infirm of the district to enter the hospitals and asylums.

CANCER OF THE RECTUM REMOVED BY PARTIAL RESECTION OF THE SACRUM.

By JOHN C. DAVIE, M.D.,
Victoria, British Columbia.

A HIGHLY intelligent gentleman, aged 50, was examined at the Royal Jubilee Hospital, Victoria, British Columbia, on July 8th, 1891, under ether anæsthesia, and found to be suffering from scirrhus of the rectum. The lower edge of the growth could be reached by the forefinger without much effort, and by dint of using a good deal of force, the tip of the index finger could be made to touch its upper limit; the major portion of the growth was situated in the posterior portion of the bowel; it however almost encircled the gut, a space the width of the examining finger remaining alone undiseased in the centre of the rectum anteriorly. The growth was immovable. As soon as the patient was informed of the nature of his malady, he expressed a desire to have the growth removed, if there was any possibility of effecting this. The method described by Kraske as modified by Levy—the latter having worked out his modification on the cadaver, but never having performed it on a living subject—appeared to be the only feasible manner of operating. On July 18th he was again anæsthetised with the intention of operating by this method, but an examination of the rectum before commencing revealed such an increase of the growth since the previous examination, its upper limit being beyond reach, that I decided to leave matters alone and lay the increased risk of any radical operation more fully before the patient. Our patient decided, without hesitation, that he would face all danger for the prospect of ridding himself of his enemy, and empowered me to do anything I chose in his case. Upon consultation it was decided to perform inguinal colotomy, both as a palliative procedure and also with a view, should the radical operation be performed later, of "side tracking" his rectum, and so do away with the danger of soiling the peritoneal cavity should it be opened, also to allow us to carry out the operation on antiseptic principles. Left inguinal colotomy was consequently performed on July 30th. The usual incision was made, and after opening the peritoneal cavity the parietal peritoneum was sewn to the skin all round, a loop of the colon was pulled up into the wound, a long harelip pin was then passed through the skin and peritoneum on one side, then through the mesocolon, and on through the peritoneum and skin on the opposite side after Kelsey's method, the object being to form so sharp a spur that no atom of faecal matter should pass into the bowel below; a few stitches were applied on each side attaching the intestine to the edges of the incision, uniting the visceral and parietal peritoneum. The harelip pin was removed twenty-four hours later, on the fifth day the gut was opened, the protruding edges cut away, and the stitches removed.

The day following, the patient was walking about the hospital corridors; he rapidly improved, lost all his pain, and slept without opiates. The bowel between the colotomy wound and anus was washed out daily with boracic acid solution, no faecal matter whatever passed into it, the spur formed by the pin in doing the colotomy proving entirely effectual. Having obtained so great a measure of relief from the colotomy, I was much inclined to advise the patient to have nothing further attempted; but, as he knew the exact nature of his disease and its inevitable termination, he urged me to attempt the radical operation. The plan I intended to adopt, as before stated, was Levy's modification of Kraske's operation, as described in Sajous's *Annual of the Universal Medical Sciences*, but, before I completed my operation, its details had to be materially modified to meet the requirements of the case. On July 31st the following operation was performed: The patient, under ether anæsthesia, was placed in Sim's position, lying on the right side with the knees well drawn up; a transverse incision, $4\frac{1}{2}$ inches long, was made across the body of the last sacral vertebra, $\frac{1}{2}$ -inch above the cornua coccygia, extending down to the bone; from the two ends of this incision, and at right angles to it, incisions were made downwards, each 4 inches long, through the entire thickness of the gluteus maximus; the soft parts were reflected off the surface of the sacro-sciatic ligaments; both the ligaments were

divided close to the edge of the bone for about an inch. The forefingers thrust into these openings were made to meet and free the rectum from the anterior surface of the sacrum. The sacrum was then sawn through, and the flap with the bone attached turned down. To allow more space, an extra $\frac{1}{2}$ -inch of the sacrum was removed with bone forceps. The hæmorrhage at this stage of the operation was free, but easily arrested by the ligature of a few small vessels. Upon examination I found that the lower edge of the growth could be felt just below the point where the sacrum was cut across. I accordingly with my fingers stripped out the rectum from its sacral attachments, until I got well above the growth, ligaturing and dividing two or three tough fibrous bands. I had thought that it might prove possible also to strip out the rectum anteriorly from its peritoneal envelope; this is easily done on the cadaver where the tissues are normal, but the growth in the case operated on had so matted the tissues together that such separation was impossible, and I soon tore into the peritoneal cavity.

I then divided the peritoneum on both sides of the rectum to a point well above the growth, but found it impossible to pull the tumour down so as safely to excise it. This difficulty was overcome by clamping the meso-rectum by a long curved pair of forceps, and dividing it close to the clamped forceps with curved scissors. The intestine to the extent of 8 inches, composed of rectum and sigmoid flexure, then came down readily into the wound; the bowel below and above the tumour was occluded by long-bladed forceps, and the diseased rectum was excised, including $\frac{1}{2}$ inch of healthy intestine on either end. My intention was to unite the divided ends of the bowel, after excision of the growth, with a double row of suture, but at this stage of the operation my patient became so collapsed that we had to terminate the procedure as rapidly as possible; the upper end of the intestine was rapidly sewn into the left hand corner of the wound, and the anal end was invaginated and sewn through and through. The forceps clamping the meso-rectum were left *in situ*, the cavity of the wound packed evenly with iodoform gauze, the end of the gauze being brought out at the right hand corner of the wound; a few silver wire sutures served to retain the replaced flap in position; a voluminous antiseptic dressing was applied, and the patient placed in bed badly collapsed. By the application of heat and the exhibition of stimulants he soon rallied. The following day he was quite cheerful, and had very little pain; the dressings, which were soaked, were changed; the forceps clamping the meso-rectum were removed at the same time, and no hæmorrhage followed. The iodoform gauze packing was left undisturbed, and external dressings reapplied. On the third day, as the temperature had risen to 102.6° F., and the pulse was 130, I changed the dressings and removed about one-half of the iodoform packing; it was in a perfectly aseptic condition. On the following day, his temperature being still high and his pulse rapid, I again dressed the wound and removed the remainder of the iodoform packing; the whole of it was thoroughly sweet and the condition of the wound aseptic throughout. I repacked the wound to a slight extent with plain aseptic gauze, and applied the usual antiseptic dressing; from this time his temperature went down rapidly and permanently, and he made an excellent and rapid recovery. He was out of bed on August 18th. The wound healed entirely without the formation of pus. At each dressing the orifice of the bowel, which was sewn into the wound, was separately plugged and covered with some iodoform gauze. Weight of growth removed, 4 ounces; duration of operation, one hour and twenty-five minutes. At present date, four months after the operation, the patient enjoys his life, and has no symptoms of recurrence.

REMARKS.—This is the first, and so far the only, case I have operated on by this method. The general rule in surgery "that only such cases of cancer of the rectum should be operated on as are easily accessible and freely movable" no longer holds good, as by the above method the whole rectum can be removed. Cases hitherto treated by colotomy, the disease itself remaining untouched, are by this method rendered amenable to radical operation. In reviewing the steps of the operation, the following points appear to me of interest.

The preliminary performance of colotomy I consider a most

important step. It allows the rectum to be rendered comparatively aseptic, maintains it, if the colotomy is properly done, empty, and minimises or excludes all chances of fouling the operation wound and peritoneal cavity by faecal matter both during the performance of the operation and after its completion. The hæmorrhage was easily arrested; the greatest bleeding occurred after the sacral flap was turned down; one or two vessels required ligature in the wall of the anal end of the rectum; no bleeding took place from the bowel where it was divided above the tumour. I imagine the ligature of the vessels of the meso-rectum would be well nigh impossible, as the mesentery lies out of sight and out of reach to anything like easy manipulation; all hæmorrhage was prevented by the use of clamp forceps as detailed. It is stated in what brief notes I have had access to of this operation that, after the sacral flap is turned down and the rectum separated from the surrounding structures, the bowel is easily pulled down. I have done this operation on the cadaver a number of times, and in no case have I found this possible except to a very limited extent. The removal of a tumour involving the upper part of the rectum and subsequent suture of the divided gut can only be possible in the case of small growths without division of the meso-rectum. In the case reported above, from the size of the growth I should not have been able to remove the diseased part of the intestine had I not succeeded in clamping and dividing the mesentery. The moment this was done, the whole rectum and a great part of the sigmoid flexure came down with a run.

I have seen no mention of this procedure anywhere; it is a detail of the utmost importance, as by this means the whole of this part of the intestine can be removed if necessary. The meso-rectum can be safely divided by introducing the left hand into the pelvis, passing the forefinger and thumb over the bowel until their tips meet behind it; the meso-rectum is then put on the stretch by pulling the bowel forwards, and can be secured by a pair of long-bladed clamp forceps guided by the finger and thumb already in position. Its division is then effected by scissors. Some time was lost in attempting to strip the rectum out of its peritoneal investment; this, I should say, can rarely be done; the tissues will generally be infiltrated and matted together; in future I should cut at once into the peritoneal cavity, and proceed with the remaining steps of the operation. The ideal operation, as performed by Schede of Hamburg, would include suturing the divided peritoneum and the union of the divided ends of the gut. In the case reported the patient's condition did not allow time for either procedure. Where the peritoneum is not sutured, stuffing the wound cavity with iodoform or other aseptic gauze is an excellent means of drainage, and of getting the peritoneal cavity walled off by deposit of lymph on its interior surface; the gauze was withdrawn gradually, so as to avoid putting too great a strain suddenly on the recently-formed lymph. The high temperature and rapid pulse which occurred while the wound was plugged with iodoform gauze were probably due to the absorption of iodoform; I have had the same symptoms before and since accompanying wounds aseptic in character, where I have been obliged to use iodoform gauze in large quantity. Amongst the many and obvious advantages of this method of operation are—first, that the sphincters are left uncut; secondly, that hæmostasis can be carried out exactly and readily, the part being under the surgeon's eye; thirdly, that the drainage of the wound cavity is naturally perfect. Lastly and chiefly, that by this method cases hitherto regarded as beyond the reach of the surgeon and his art, and relegated by him to their fate, can be approached with confidence and dealt with radically. It opens a new field to the surgeon for removal of malignant growths of the rectum, also for the removal of malignant disease of the uterus and appendages.

Present and assisting at operation, Hon. J. S. Helmcken; Mr. Jones, of Her Majesty's ship *Warspite*; Drs. Hazell, Hanington, and Richardson.

THE FRENCH HOSPITAL.—The twenty-fourth anniversary dinner in aid of the funds of this institution will take place at the Hôtel Métropole (Whitehall Rooms) on February 20th, 1892, His Excellency the French Ambassador in the chair, supported by the Right Honourable the Lord Mayor and the Sheriffs of London.