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ORIGINAL COMMUNICATIONS.

A GLIMPSE OF LAPAROTOMY IN EUROPE.

BY

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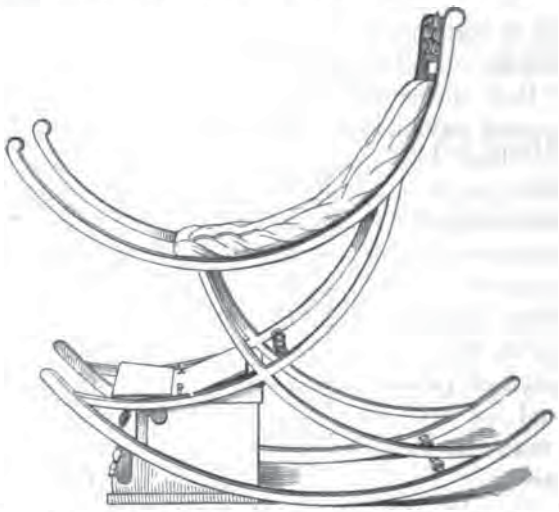
It had long been my intention to complete my knowledge of the methods of the most prominent laparotomists of Europe, derived from their writings, by seeing as many of these gentlemen operate as my necessarily limited absence from home would allow; and, by comparing their methods, to endeavor to explain why our results in America have not yet, as a rule, reached the high rate of success attained by the best operators abroad.

With this object, I sailed from New York on May 26th last, and on my arrival in Bremen on June 5th, found a letter from Dr. L. Prochownick, of Hamburg, whom I had apprised of my visit, informing me that he and Dr. Max Schede, of the same city, had each arranged for a laparotomy for me on June 8th.

Proceeding to Hamburg, I was cordially welcomed by Dr. Prochownick, who showed me his private hospital which, in location (fronting on the beautiful Alsterbassin, the pride of Hamburg, and with a large garden in the rear) and in the neatness and convenience of its internal arrangements, surpassed anything of the kind I saw during my trip. Although it is my purpose to limit my description almost entirely to abdominal

section, I shall occasionally mention one or the other operation or contrivance of peculiar interest. Thus I will briefly describe the arrangement of the examining-room in Dr. Prochownick's private hospital, which I found reproduced substantially in most other clinics in Germany. First of all, the examining-chair attracted my attention. It is the device of Prof. Schatz, of Rostock, and while the attitude it compels the patient to occupy is not exactly graceful, it certainly relaxes the abdominal walls so as to most thoroughly permit bimanual examination. Indeed,



I almost fear that the exceeding facility with which it enables the examining fingers to reach the pelvic viscera is due to a more or less abnormal depression of those organs toward the pelvic floor. But I do not think that, without an anesthetic, I ever felt the uterine appendages quite so plainly as in Schatz's chair; and I should deem it of special utility in mapping out the ovaries and tubes in those difficult cases in which not every operator nowadays feels disposed to follow the rash counsel "when you do not know what is the matter, open the abdomen and find out." I think the majority of us will prefer to exhaust all safe means of making a diagnosis before resorting to the last expedient. I need hardly say that Schatz's chair permits examination in the dorsal position only. Connected with the wash basins are several large porcelain jars, containing either solutions of corrosive sublimate 1 to 1,000, or carbolic acid 2%, or boiled water.

Scrupulous care was exercised in scrubbing and disinfecting the hands before each examination. Close by the examining table was suspended a glass jar containing corr. subl. solution, 1 to 10,000, with a long rubber tubing and a vaginal nozzle attached, through which the vagina was carefully irrigated before and after each digital examination. So far as practicable, tables, washstands, and instrument-stands were made of galvanized iron, with no unnecessary ornamentation.

The hour fixed for the laparotomy was 6:30 A.M., on the second day after my arrival. The early hour may surprise my readers, as it certainly did me. But I found it to be the universal custom among laparotomists in Germany, the reasons given for their choice being that they are most fresh in mind and body, and having just left their beds, taken a bath, and dressed in clean clothing, are sure of being perfectly aseptic; further, the operation being completed, the rest of the day is free to other occupations; and lastly, if any unforeseen secondary complication ensues after the operation, it is most likely to occur within the twelve hours of daylight.

As neither August Martin, Tait, or the other successful English operators find it necessary to inflict such early hours on themselves, their patients, and the spectators, it would seem that the general habit of early rising in Germany might account quite as much for the hour chosen for laparotomy as any other single reason.

Having complied with the operator's request as to punctuality and clean linen and clothing, after coffee and rolls in the garden we proceeded to the laparotomy room on the top floor (a room used only for this purpose). There were but two assistants, one to give chloroform, the other to assist the operator; and two nurses. No spectator but myself. Sponges were used, prepared and sublimated in the usual way. The table was of galvanized iron, a mere skeleton; the instrument-stands were of the same material on rubber rollers, the pans of thick glass, let into the stands. The floor of cement, walls and ceiling painted. No spray.

CASE I.—June 8th. *Multiple Carcinosis of Visceral and Parietal Peritoneum.*

Girl, 16 years of age. Probable diagnosis, malignant ovarian tumor. As a possible, but not probable, chance an exploratory incision was decided upon.

After shaving the pubes, the operator made a long incision down to the muscle, rapidly dissected down to the supraperitoneal fat, picked the latter up with two forceps, divided between, and thus speedily nicked the peritoneum. Inserting two fingers, he lifted up the abdominal wall, and, without director, divided the peritoneum with the knife. The tumor turned out to be a multiple carcinosis of the intestinal and parietal peritoneum, which was completely studded with small cancerous nodules. The uterus and ovaries were normal. Nothing was to be done but to return the whole adherent mass of intestines as gently as possible to the abdominal cavity and close the wound, which was done with deep silk and superficial catgut sutures. The usual dressing and adhesive straps were applied.

Although it was at first feared that the patient might not rally from the shock, Dr. Prochownick informed me ten days later that she had made an excellent recovery from the operation.

Utmost care, attention to details, and scrupulous neatness distinguished Prochownick's operation. I found him one of the most painstaking, as well as intelligent, men I met in Germany.

CASE II.—June 8th, 9:30 A.M. DR. SCHEDE. *Small Intraligamentous Hematoma.*

Operation in separate operating-room of Hamburg General Hospital, built for laparotomies; all of glass. Operator and assistants in rubber shoes and linen coats; temperature of 85°; room full of aseptic vapor; floor drenched in aseptic fluid.

Long incision, no director. Firm pelvic adhesions divided by blunt scissors. Small sac on left side, intraligamentous, no pedicle. Parietal peritoneum sewed to sac all around with catgut; then hypodermic aspiration of sac, and withdrawal of bloody serum, which showed the cyst to be an intraperitoneal hematoma. Schede opened the sac freely and introduced a rubber drainage tube, and closed the wound around it.

I could not but criticise the operation in this case, since it seemed to me that aspiration per vaginam would have made the diagnosis, and a free incision, with antiseptic irrigation and drainage through the same passage, would have achieved a speedy cure much more easily and safely than by the always dangerous operation of laparotomy. At least this has been my experience in three cases of large pelvic hematoma in which I aspirated, incised, irrigated, and drained per vaginam, the sacs holding thirty-two, twenty-six, and eighteen ounces of semifluid blood respectively.

The main characteristic of Schede as a laparotomist seemed to me to be rapidity of execution, chiefly in handling the needle-holder (Hagedorn's), which is not to be wondered at considering

the enormous material he controls (six hundred beds) and the number of operations (twenty-five hundred on an average) he performs per annum. He had begun at 7 o'clock on that morning by an amputation of the breast, with accompanying dissection of the axillary glands, followed by a consultation; hence the postponement of the laparotomy to 9 o'clock.

Schede does a number of laparotomies and other gynecological operations, thus he spoke of having done over twenty vaginal hysterectomies for cancer.

From Hamburg I proceeded to Berlin, where I saw Schroeder, Martin, and Veit do abdominal sections.

Schroeder operates in the beautiful new "Frauen-Klinik," with which his private dwelling is connected, as is frequently the case with the professors of obstetrics and gynecology in the German universities.

His operating hour is seven in the morning, and punctually as the clock strikes the door from Schroeder's private apartments into the hall, on the ground floor of the clinic, opens, and the operator appears clad in a loose suit of white linen, the coat of which he removes during the operation, which is begun without a moment's delay, the patient having already been narcotized by the first assistant, Dr. Reichelt. The spectators are immediately invited to enter the operating-room and the door is closed. The number of spectators during my stay in Berlin never exceeded, if it reached, a dozen. Utmost punctuality in attendance and silence during the operation are expected.

The following rules are printed on the back of the cards of invitation to abdominal sections:

"*Rules for the physicians who wish to attend laparotomies in the Royal Gynecological Clinic:*

"Those physicians who desire to be invited to laparotomies must agree

"1. On the day before the operation not to have come in contact with infectious matters of any kind.

"2. To attend the operations only in clean linen, and in clothing which has not been worn in rooms occupied by sick persons.

"3. Not to touch instruments, sponges, or any articles whatever employed for the operation.

"4. To be present punctually at the appointed time, as with the beginning of the operation the door is locked.

"SCHROEDER."

The operating-room is used only for abdominal sections; all other operations, including vaginal hysterectomies, are performed in one of the clinical lecture rooms.

Every superfluous article is absent in the laparotomy room, the walls of which are painted and the floor cemented; operating-table and instrument-stands of galvanized iron. Only two male assistants, Dr. Reichelt (chloroform), and Dr. M. Hofmeier, opposite the operator; two nurses, one to hand instruments, the other standing behind Schroeder with basin containing sponges, mostly large, in a basin of two-per-cent carbolized water. No spray. The patient is placed at her whole length on the table, the feet being on a level with the head.

Contrary to all other operators whom I have seen, Schroeder stands on the left side of the patient, with his back to her head, and begins the incision at the symphysis pubis, very low down, using a long knife, and with one cut going down or even through the linea alba to the supraperitoneal fat from pubis to umbilicus. With delicate touches the tissues are divided to the peritoneum, which is gently lifted between forceps, nicked, and then divided to the full extent of the wound, the edges of which are lifted up by two fingers passed under the borders of the recti, so that the light shines through the peritoneum before it is divided. In this way injury to the bladder is avoided, although Schroeder admitted to me that with adherent bladder it might be possible, and, indeed, had happened to him once or twice, to wound that organ while hastily opening the peritoneal cavity.

I repeatedly saw the whole fundus of the bladder exposed from the beginning of the operation. The object of this low incision is to permit more easy access to the pelvic cavity.

Bleeding vessels in the abdominal walls were merely clamped, but seldom tied, the hemorrhage having generally ceased before the wound was closed.

The advantage of standing on the left of the patient would seem to be that the operator can, without reaching over the patient, or his left hand, and without interfering with the spectators at the foot of the table, grasp the sponges from the basin himself, and return them, thus avoiding their being touched by a third person. Further, the possibility of holding up the peritoneum to the light before cutting through it. To the left of Schroeder stood a high stand, with a glass pan filled with two-

per-cent carbolic-acid solution, in which he himself replaced the knife and clamps each time after using them. Opposite, to the left of Dr. Hofmeier, stood a lower table holding pans with antiseptic fluid, in which lay the ligatures and sutures, of silk (generally) and catgut, in charge of a nurse. The needles used for transfixing adhesions and the pedicle are long copper, silver-plated aneurism needles of different curves, with dull points, all metal (so-called Deschamps needles). The needles for abdominal suture are very long, stout, curved steel needles, used either with or without a needle-holder. The number of instruments prepared for use was comparatively small.

The abdominal sutures were passed through the whole thickness of the abdominal wall, from without inward, no very great care being employed to secure perfect adaptation of the cutaneous edges.

Schroeder had a clever way of covering the intestines with a large sponge laid transversely across the abdominal cavity, like a diaphragm, and I never saw them come down and trouble him during the operation in spite of his long incision. The fact that he begins the incision so low down, and, therefore, would seldom need to go above the umbilicus, doubtless is largely instrumental in keeping the intestines out of the way and above the incision.

Another peculiarity of Schroeder was, instead of cleansing a bleeding surface by mopping it with the sponge, to seize a larger sponge full of water and with a rapid compression to dash the water from it over the wound, and thus wash away the blood and coagula. Of course this maneuvre was not employed in the open abdominal cavity. The dressings were those usually employed (gauze, straps, and binders).

CASE III.—SCHROEDER. *Laparotomy for Large Hydronephrosis.*

June 12th, 7 A.M. Cyst size of pregnant uterus at six months. Peritoneal envelope split to its whole extent, and rapid enucleation of the sac with the fingers. While doing so it burst. Only four or five ligatures were needed to thick, vascular adhesions, and at the hilus. The large extraperitoneal oozing cavity was carefully searched for bleeding points, which were caught up and tied, and it was then mopped dry and the folds of peritoneum were carefully placed in apposition and held down by the intestines. The abdominal wound was closed by silk sutures; no drainage.

Uninterrupted recovery.

CASE IV.—SCHROEDER. *Laparotomy for small Hæmato-salpinx.*

June 12th, 7:45 A.M. Large incision; very difficult, forcible separation of cyst; multiple ligature of pedicle, which was simply cut off and dropped. Careful sponging, no drainage; closure of wound. Recovery.

CASE V.—SCHROEDER. *Laparotomy for Complete Removal of Cancerous Uterus (Freund's operation).*

June 12th, 8:45 A.M. Sarcoma of body of uterus; operation once refused by Schroeder, but now insisted upon by patient. Prognosis doubtful on account of size of uterus; probable extension of disease to adnexa. Very fat woman, with enormously thick abdominal walls. Very low and long incision; step by step ligature of adnexa and vessels with silk; gradual separation with knife down to bottom of Douglas' pouch. Amputation of body of uterus with Paquelin; excision of cervical stump with knife, closure of cervical wound with numerous interrupted silk sutures. Uninterrupted catgut suture to unite two folds of peritoneum and stop oozing from adhesions. Complete closure of abdominal wound. Duration of operation about fifty minutes. Death from shock on fifth day.

Although an interval of over two weeks elapsed before I again saw Schroeder operate, owing to my absence from Berlin, I will conclude my description of his operations now.

CASE VI.—SCHROEDER. *Laparotomy for Unilocular Ovarian Cyst.*

June 29th, 7 A.M. Perfectly simple case; monocyst of size of fetal head; large incision, removal of cyst intact and unopened. No adhesions. Pedicle ligated by transfixion in usual way, and dropped. Duration of operation thirteen minutes.

CASE VII.—SCHROEDER. *Solid Sarcoma of Mesentery. Exploratory Laparotomy.*

June 29th, 7:30 A.M. Very large incision; extensive adhesions to intestines and omentum; very free hemorrhage from surface of tumor, which was evidently malignant, larger than adult head. No possibility of removal. Partial arrest of oozing by Paquelin and compression. Closure of wound. Pressure by bandaging. Duration thirty minutes.

CASE VIII.—SCHROEDER. *Multilocular Tumor of Left Ovary.*

June 29th, 8:45 A.M. Large polycyst of left ovary, uterus carried to right side. Very wide pedicle, quadruple ligation. No adhesions. Puncture of cyst with knife; no trocar. Duration, thirty minutes.

The six laparotomies which I saw Schroeder do, of which four were certainly very difficult, gave me a very high opinion of his skill, coolness, and judgment. The perfect order and preci-

sion, the utter want of haste and noise observed by operator, assistants, and nurses was a pleasing contrast to the bustle and nervousness exhibited by other, perhaps equally skilful operators, and deserves imitation.

The ease, apparent unconcern, and absence of fatigue shown by Schroeder after each of these two sittings of three operations, gave proof of long experience and great self-control.

I found a very pleasant acquaintance in Schroeder's late first assistant, now Privatdozent, Dr. M. Hofmeier, whose reports on obstetrics and gynecology in Germany are familiar to the readers of the JOURNAL OF OBSTETRICS. He had just returned from a professional trip to Madeira, where he had performed a successful Porro operation for dystocia, caused by large fibroid tumors in the pelvic cavity, both mother and child being saved. He demonstrated the specimen at a meeting of the Berlin Obstetrical Society on June 11th, where Dr. Landau also exhibited the specimen of a tubal gestation successfully removed by laparotomy.

Proceeding to the private clinic of Dr. August Martin, I was most cordially received by that genial surgeon, and by his two assistants, Drs. Czempin and Langner. Martin's clinic is a large substantial building of brick, stone, and iron, unpretentious in architecture, but solid and practical in design.

Not having a laparotomy on hand that day, he showed me his wards, where ten cases were lying, in the various stages of recovery from abdominal section, between the third and twentieth days, all with scarcely a rise of temperature: two cases of double pyo-salpinx, four myomotomies, one double ovariotomy, one exploratory incision for cancer of the liver, one supravaginal amputation of sarcomatous uterus, one suppurating fibroid of anterior uterine wall drained through the vagina.

All his laparotomies are performed in a separate operating-room, with walls, floor, and ceiling of cement and painted plaster, which are thoroughly scrubbed and washed with corr. subl. sol. before each series of operations. The hour for operating is chosen by Martin to suit his convenience; thus the laparotomies I saw him do were performed between 11 and 1 o'clock. All spectators leave their coats, vests, collars, cuffs, neckties, and suspenders in the anteroom, and scrub their hands with antiseptic soap. Silence in the operating-room is requested. His two head assistants, and the matron Frau Horn

(who has charge of the whole management of the clinic), and a subordinate nurse for fetching water, as well as a third assistant for the chloroform, form the staff. The patient is laid on the operating-table (which is of galvanized iron with a removable centre piece, so as to permit the easy application of the binder), with her hips at the edge and her feet resting on the operator's knees, who sits on a low stool between her thighs and operates in this position. The instruments are placed in a pan with corros. subl. sol. 1 : 10,000, at his side; the sponges are managed by Frau Horn, and are prepared in the usual manner, and kept in the same antiseptic solution. No spray. Abdominal dressing, aseptic gauze and roller, bound around abdomen and thighs. Contrary to the usual custom of keeping the intestines in the abdominal cavity, Martin at the very beginning, if they are in the way, lays them all out on the thorax and keeps them there wrapped in a wet aseptic warm towel until the time comes to close the incision. If the towel is kept warm, no harm seems to be done by this exposure, and certainly much room is gained and the operation is facilitated. On my return to Berlin several weeks later, I saw Martin do the following abdominal sections:

CASE IX.—A. MARTIN. *Laparotomy for Carcinomatous Tumors of both Ovaries and Peritoneum.*

June 30th, 11 A.M. Large incision; careful double ligation of pedicle with silk; division with scissors; no Paquelin. Pedicles dropped. Complete closure of wound; no drainage. Silk sutures, small curved needles, with holder. Prognosis bad.

CASE X.—A. MARTIN. *Double Purulent Pachysalpingitis and Peri-oöphoritis.*

June 30th, 11:30 A.M. Caused by gonorrheal infection some years before. Large incision. Numerous adhesions, detached by fingers. Ordinary double ligature of pedicle; scissors. No Paquelin. Dropped. Rapid cleansing of peritoneal cavity; careful replacement of intestines and omentum, so as to act as hemostatics and tampons against oozing adhesions. No drainage.

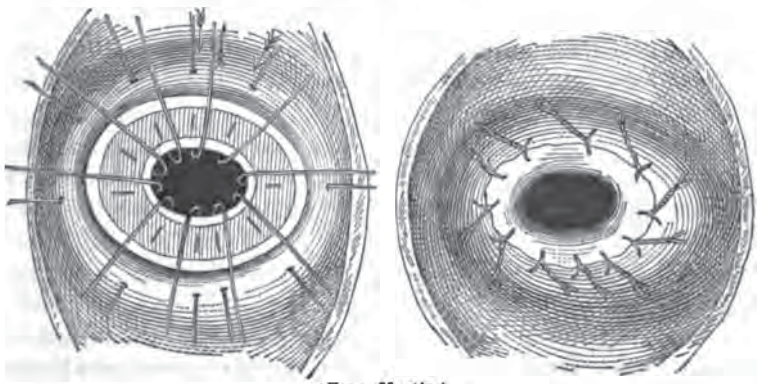
CASE XI.—A. MARTIN. *Multiple Myomata of Uterus. Hysterectomy.*

June 30th, 12 M. On opening the abdominal cavity, and exposing the uterus, enlarged to size of adult head, Martin drew the organ through the incision with vulsellum, and passing an elastic ligature around the cervical portion, made an incision down its anterior surface, and with great ease and rapidity enucleated a myoma of the size of two fists, intending then to stitch together the surfaces of the cavity by perforating quilt-sutures as is done in myomotomy proper, and then return the otherwise un-

mutilated organ to the abdominal cavity. But he found four or five other myomas of the size of walnuts scattered through the body of the organ, and therefore decided to remove it entirely down to the elastic ligature. He first passed a deep suture through each broad ligament so as to secure the ovarian artery, and then cut off the uterus. With numerous deep silk sutures he approximated the lips of the stump, and carried the peritoneal covering carefully over it, until all danger of hemorrhage was averted. Then, seizing a rubber drainage tube in the blades of a long blunt dressing forceps, he rapidly forced it through Douglas' pouch into the vagina, and closed the end of the tube with a silk ligature. He then closed the abdominal wound completely. Duration thirty minutes, as long a time, he said, as he ever requires for this operation. The drainage tube is withdrawn after two to three days, in accordance with the presence or absence of secretion.

The laparotomy patients, unless private, are all placed in the general wards, which contain six beds.

During both my visits I saw Martin perform a number of what he calls "amputations of the cervix," but which I should call *excision of the muscular tissue of each lip of the torn cervix, with attachment by suture of the vaginal mucous covering to the mucous membrane lining the cervical canal.* This operation was first devised by Hegar, and is described in the "Operative Gynecology" of Hegar and Kaltenbach.



(From Martin.)

With the patient in the gluteo-dorsal position, the cervix exposed through Simon's specula, and drawn to the vulva by vulsellum, the whole substance of the anterior lip up to the angle of the rent is cut out with the knife; then the edge of

the lip is sewed by silk sutures to the edge of cervical mucous membrane of the same lip, thus inverting the vaginal mucosa into the cervical canal. The same is done on the posterior lip; and the lateral angles of the rent are united by sutures going through both lips so as to make an external os of the desired size. In this manner, the everted, eroded, and diseased cervical mucosa is not only removed, but the hyperplastic tissue of the lip is exsected, and the cervix shortened, and the rent repaired. But this is not a true amputation of the cervix, and besides, it is certainly not restoring the organ to its normal condition, when the vaginal covering is turned into the cervical canal. In prolapsus uteri with hypertrophy of the torn cervix (very common conditions, as we all know), this operation undoubtedly achieves a more thorough involution of the uterus, and therefore is preferable either to simple trachelorrhaphy or (because the shape of the cervix is maintained) to complete amputation of that part. But I am confident that simple trachelorrhaphy must suffice for many cases in which Hegar and Martin perform their operation, and would be more logical in its indications and more physiological in its results.

In these cases of cervical laceration, Martin habitually curettes the uterus with Récamier's curette, washes it out at once with a tepid corr. subl. sol. 1 : 1,000, and immediately injects a pure sol. of persulph. iron. Then he proceeds with the excision, as described.

In one case of retention of placental fragments and coagula, with cervical canal impassable to the finger, Martin did not dilate, as I think he could have done within a few minutes with Molesworth's dilator or large graduated steel sounds, but passed a deep ligature through the vaginal vault on one side, and then divided the cervix from within outwards with a blunt-pointed bistoury, until he could pass his finger into the uterine cavity. He then removed the contents with curette, finger and forceps, irrigated with cor. subl. sol. and injected sol. ferri subsulph., and then sewed up the incision in the cervix, and removed the ligature. Instead of sponging in vaginal operations, Martin removes blood and coagula by irrigating with a very weak corr. subl. sol., either flowing from an irrigator or poured on from a bottle.

As an operator, Martin combines boldness, some call it rashness, with rapidity and certainty. In his hands, his style of operating does not strike me as rash, and certainly his results

justify his judgment and his method. He is marvellously dexterous with his fingers, and uses the needle-holder and the suture with a rapidity second to none.

While Schroeder himself gives no private courses, leaving that task to his assistants, Martin always has a number of physicians attending his operations and clinics as students.

On June 16th I went to Munich to attend the first meeting of the German Gynecological Society which was convened by Winckel and Olshausen. While there was a certain lukewarmness on the part of some German gynecologists, partly for private reasons (such as are not entirely unknown in other countries), partly because they wished to keep their "thunder" for the meeting of the German Medical Association in Berlin next September, there had been, on the whole, a warm response to the call, and I was rejoiced to meet there some fifty of the most prominent gynecologists and obstetricians of Germany and the neighboring states, such as my old chief, the veteran Scanzoni, of Würzburg, and his senior by a few years, Credé, of Leipzig; further Professors Winckel (Munich), Olshausen (Halle), Gusserow (Berlin), Kaltenbach (Giessen), Chrobak (Vienna), Müller (Berne), Schauta (Innsbruck), Leopold (Dresden), Schatz (Rostock), Zweifel (Erlangen), Fehling (Stuttgart), Säxinger (Tübingen), Elischer (Pesth); Drs. Hofmeier (Berlin), Prochownick (Hamburg), Hirschberg (Frankfort), P. Reuss (Bremen), Sänger (Leipzig), Veit (Berlin), Meinert (Dresden), Oppenheimer (Würzburg), Wiener (Breslau), and from not German-speaking countries, Profs. Slavjansky (St. Petersburg), Runge (Dorpat), Pozzi (Paris). Profs. Breisky, Schultze, and Fritsch were at the last moment prevented from attending. The sessions continued during three days, and were very well attended, the papers which excited the most interest being those by Prof. Müller, of Berne, on "The After-treatment of Difficult Laparotomies" (how to prevent adhesions, torsions of intestines, etc.); Saenger, of Leipzig, on "The Vaginal Palpation of the Ureters" (which ducts he claimed can be touched in the majority of pregnant women, and in many cases where they are not enlarged); also by Saenger, on "The Relations of Gonorrheal Infection to Puerperal Disease" (he claiming that an *old* venereal infection—from "latent gonorrhea"—will usually produce some inflammatory action about the uterus during puerperal convalescence, chiefly at a later stage);

Bayer, Strassburg, on "Placenta Previa;" Runge, of Dorpat, on "The Active Treatment of Puerperal Fever;" etc.

In one particular the speakers differed from ours, in that they delivered their addresses extemporaneously, merely consulting notes, and the fluency and ease of delivery abundantly showed the result of long practice.

The recent death of the king of Bavaria prevented the usual social entertainments, with the exception of the regular evening meetings at the Café d'Allarmi, where true German "Gemüthlichkeit" and freedom of intercourse reigned. After a brief sojourn with my father at Goerz in the neighborhood of Trieste, I spent a few days in Vienna, and had the pleasure of meeting again after many years my old friends Profs. Carl Braun, Rudolph Chrobak, and Carl Rokitansky, as well as Profs. Billroth and Bandl. Prof. Breisky, who has been called to Vienna in place of Prof. Spaeth, retired by ill-health, had returned to Prague only a few days before. His well-merited promotion will be welcomed by his many friends. My time being short, I was able only to see laparotomies by Braun and Billroth.

Prof. Braun very kindly operated on a case for me which had just come into the hospital and which he at that hour (11 A.M.) had not yet seen. We visited her together, and the diagnosis of multilocular cyst having been made, the operation was set down for 1 o'clock on the same day. It was performed in the general clinic room, before some fifty students, and I am obliged to say that, with the exception of the sponges and instruments and the hands of the assistants there was no attempt made to enforce antiseptic precautions. The patient walked into the amphitheatre, was placed on the table and chloroformed before the class, and the operation at once proceeded with, Braun sitting on the right side of the patient.

CASE XII.—CARL BRAUN. *Laparotomy for polycysts of both ovaries.*

June 25th. Long incision, no director, cyst opened with knife and fluid allowed to escape in a stream, while the cyst was drawn out with vulsella. No precaution was apparently taken to prevent the fluid from entering the peritoneal cavity, except by closing the incision with the sac. (And I may as well say here, that in no ovariotomy which I saw abroad did the operator deem it necessary to turn the patient on the side, as is done with us, to prevent the cyst-fluid from flowing into the peritoneal cavity, and in no case did such entrance occur.)

Extensive adhesions detached by hand partly ligated; some oozing. Clamp to pedicle transfixed, ligature beneath, and then searing off of pedicle over clamp with Paquelin. Pedicle dropped. After removal of this very large tumor (circumference of abdomen ninety-seven centimetres), a second small one was discovered in the pelvis, which was removed in the same manner. Careful toilette of peritoneal cavity with sponges. To arrest the oozing from torn adhesions, which were chiefly on the anterior wall, the abdominal sutures were passed at least two inches away from the wound on each side, and the bleeding surfaces thus quilted against each other, forming a high ridge in the median line. Silk sutures; no catgut. Usual dressing with gauze and straps.

Prof. Braun showed me several laparotomies, among them one hysterectomy for fibroid (pedicle treated by extraperitoneal method, he does not believe in dropping it in hysterectomy) which were recovering nicely, all having been done in the amphitheatre before the class.

He also showed me several puerperal women in whom he claimed to have removed the cause of the infection—decomposing remnants of placenta and adherent coagula—from the endometrium by a powerful dull curette, the use of which in cases of septic infection seemed to be his present practice. He said that the mortality in the obstetric wards was now only four in one thousand.

He also exhibited to me a puerpera in convalescence who had been brought in almost moribund from hemorrhage from placenta previa centralis. Instead of immediately delivering her, the shock of which operation with the inevitable loss of blood accompanying it would probably have killed her at once, he tamponed her, gave stimulants, and after some hours when she had rallied, turned and extracted the child. By this temporizing he thought he had saved the woman's life.

As a laparotomist, Braun probably does not claim to rank with those operators who make that particular operation, as it were, a specialty. He belongs to the older school, and his ovariotomy was one of the old-fashioned operations. But his dexterous and bold use of the knife, his perfect coolness and rapid mental grasp of the situation, stamp him as an unusual man, and surprise those who think so stout and easy-going a man incapable of rapid and decisive action.

Prof. Billroth kindly invited me to a laparotomy for uterine myoma, which he performed in the operating-room of the female service of the surgical clinic. Here antiseptics had their

full sway, always except the spray, which I scarcely saw in Germany. Contrary to the majority of European operators, Billroth was overwhelmed with assistants, there being eight, besides two female nurses and one male attendant.

An excellent innovation, it seemed to me, was the substitution of large flat cloths of gauze of sufficient thickness, for the large flat sponges in ordinary use. These gauze cloths were used only for one operation, and burned afterward. I am convinced that large sponges are very difficult to render thoroughly aseptic, and I know if they are so rendered they soon become friable and rotten, and thus useless for the peritoneal cavity.

CASE XIII.—BILLROTH. *Multiple Myomata of Uterus. Hysterectomy.*

June 27th, 9 A.M. Large free incision, no director. Uterus size of adult head. Ligation of lateral vessels. Division of tissues between ligatures and uterus with Paquelin. Elastic ligature around cervix; removal of tumor with knife. Enucleation of several small myomas from the stump. Paquelin to cervical canal. Each vessel in stump ligated separately. Numerous silk sutures to muscular tissue of stump, and then union of peritoneum over the stump. Removal of elastic ligature; still oozing from the stump, consequently numerous deep suture-ligatures. Finally, the stump was stitched to the peritoneum at either side of the abdominal incision, and a small skein of gauze was inserted to insure drainage. The peritoneum, muscles, and skin of the abdominal incision were then separately united by silk sutures, only a small sinus being left for the gauze drain. Duration of operation two and one-half hours.

Another quite similar operation had been set down for this morning, but operator and assistants were too fatigued to continue.

The tendency of every needle puncture and every bruised or wounded surface to bleed with the most provoking perseverance, which renders these operations of hysterectomy for fibroid so laborious and distressing, was abundantly illustrated in this case.

Billroth, in answer to my question, said that he had practically abandoned catgut in his operations, finding it unreliable.

Prof. Rokitansky showed me several laparotomies in process of recovery in his hospital, the "Maria Theresia," one, a very difficult case of enucleation of a large fibroid from the folds of the broad ligament (probably a detached subperitoneal fibroid of the uterus), but I was unable to prolong my stay to see him

do an ovariotomy, as also my old friend, Prof. Chrobak, both having cases on hand for the coming week, my presence being desired at Breslau, by telegraph from Prof. Fritsch, with whom I had spent a most pleasant day at Halle, in 1881.

Fritsch operates in the light and commodious operating-room of the Royal Gynecological Clinic, which is an old building, but which he expects to see replaced by a new one very soon.

Antiseptic precautions *lege artis*, except spray. A convenient contrivance was a low movable stand behind the operator, containing two large porcelain pails and a basin, for clean water and washing the hands; also several low stands with glass pans for instruments fitted into them, useful for operations in the sitting posture.

CASE XIV.—FRITSCH. *Dermoid Cyst of Pelvic Cavity. Sac sewed in Wound. Ovaries Normal.*

June 28th, 7 A.M. Large incision in usual manner. Apparently universal adhesions, but finally cyst found to proceed from the cellular tissue between the layers of the broad ligament, and therefore not enucleatable. Both ovaries were healthy. The sac contained hair, and exquisitely formed teeth. As much as possible of the sac was cut away, and the edges were stitched to the abdominal wound. The sac was tightly packed with iodoform gauze, which was to be the future dressing, with corr. subl. irrigation.

In making the abdominal incision, careful dissection was required, as the bladder was found adherent and drawn up almost to the umbilicus.

Prof. Fritsch then performed a vaginal hysterectomy for cancer, which I shall describe, with two others, later on.

Returned to Berlin, I saw the laparotomies by Schroeder and Martin already described under dates of June 29th and 30th, and on July 1st was present at an ovariotomy by Dr. Veit, at his private clinic.

CASE XV.—VEIT. *Ovarian Polycyst. Previous, probably recent rupture of the Cyst, but no Peritonitis.*

July 1st. The case presented no difficulties whatever; no drainage was used, as the cyst-fluid appeared unirritating. The pedicle ligature and abdominal sutures were of catgut.

Veit distinguishes himself from other laparotomists in three important points:

1. He uses exclusively catgut, instead of silk, as also in trachelorrhaphy and colporrhaphy, and has never known it to slip or dissolve too soon, if prepared in the following manner. The gut is made by the druggist Drohnke, No. 25 Potsdamer

Strasse, Berlin, and comes in various sizes, Nos. 2, 3, and 4 being sufficient for most purposes. The gut is placed in pure oil of juniper-wood for twenty-four to forty-eight hours, and is then preserved in a mixture of pure alcohol and glycerin, ten per cent of the latter. Absolutely no water should be added, or be allowed to touch the gut at any time; the threaded needles should be kept in a pan with pure alcohol during the operation. Water swells the gut, and makes it brittle. Prepared and kept as Veit does, it lasts in the tissues from thirteen to sixteen days, sufficient for all operations, plastic or not.

2. He uses no dressing on the abdomen after laparotomy but plain absorbent cotton fastened down by collodion painted all around the border. This is not removed until the stitches are removed.

3. To secure rest of the abdominal organs and walls, and approximation of oozing surfaces, he places a flat bag of sand containing a disk of iron, over the cotton dressing, the whole weighing about twenty pounds, and leaves it on for about forty-eight hours. After that no compressory dressing is required.

Veit is known, among other things, for his series of six laparotomies for early tubal pregnancy, the last five of which were successful.

From Berlin, I went to Dresden, where my friend, Prof. Leopold, showed me a laparotomy for what turned out to be a non-removable malignant tumor of the right ovary; and then a vaginal hysterectomy for cancer, to be described later on.

Leopold is very antiseptic. After scrubbing his hands most thoroughly with soap, and washing them in corr. subl. sol., he made two imprints with his nails on a film of gelatin on a glass plate kept in a close chamber, in order to see whether after so thorough a disinfection there were still micrococci in the nail prints on the gelatin. The result I did not learn. But no spray.

CASE XVI.—LEOPOLD. *Exploratory Incision; Non-removable Malignant Tumor of Right Ovary and Broad Ligament.*

July 2d. Long incision in usual manner. Closure of wound by silk sutures. Usual dressing.

After a short stay at Carlsbad, Franzensbad, and Marienbad, I proceeded to Freiburg, in Baden, where I was very cordially received by Prof. Hegar, who showed me a laparotomy for a solid ovarian tumor. He operated in an upper amphitheatre of the clinic, with two assistants, two nurses, and but two spectators. Usual antiseptics, but no spray.

He is a careful, not very rapid, but withal very skilful operator, not differing in his methods from other German operators, except in his preference for the elastic ligature, even when dropping the pedicle; and for the extraperitoneal method of treating the stump after hysterectomy for fibroids, in opposition to the Berlin practice of careful suturing and dropping it.

CASE XVII.—HEGAR. *Large Myxo-sarcoma of Ovary.*

July 8th, 8 A.M. Girl of 22; growth of about eight months' development; right ovary. Small pedicle. Thin elastic ligature through and around pedicle; ends tightly drawn, and tied together with silk. Removal of tumor, sixteen pounds weight. Pedicle dropped. Closure of abdominal wound; silk sutures.

Hegar's assistant and son-in-law, Dr. Wiedow, showed me the former's operation for rectocele and prolapsus uteri, described in "Hegar and Kaltenbach," Fig. 218, and in my "Minor Surgical Gynecology," Fig. 313. Fine wire sutures were used, twisting each before introducing the next. The restoration of the posterior vaginal wall, perineum, and vaginal outlet was certainly most perfect, and influenced me greatly in favor of the operation.

From Freiburg, I went to Berne, where my old friend, Prof. Peter Müller, showed me an oöphorectomy for dysmenorrhea, the only operation of the kind I saw in Germany. The distinct indication was long-continued suffering during menstruation in a parous woman, which resisted all other remedies, and rendered her unable to work. The gynecological clinic is in the Maternity building, beautifully situated on a hill overlooking the town. Septicemia was almost unknown in the building since proper measures had been adopted.

A very useful contrivance was a long flat pan attached under the zinc slab of the operating-table to catch the refuse water and fluids. The operating-table itself was placed in a large pan of zinc on the floor, the operator and assistants standing on slats in the pan. In this way, the necessity of wearing rubber shoes and the wetting of feet are avoided, which latter does not add to the pleasure of the operation, as the gentleman who stood for an hour in bloody corrosive sublimate water in Martin's operating-room with me during the three laparotomies already described will doubtless testify. As Martin himself said, he could not have the floor cleaned between the operations, as the nurse in attendance must not soil her hands, and he was short of nurses.

CASE XVIII.—MÜLLER. *Oöphorectomy (Castration) for Dysmenorrhea from Recurrent Oöphoritis.*

July 10th, 6:30 A.M. Short incision; grooved director; silk ligatures to pedicles; Paquelin. Ovaries not particularly enlarged or diseased to the naked eye. Both tubes greatly congested, but not enlarged; no adhesions.

Compression of the first ovary with forceps while applying the ligature elicited an expression of pain from the deeply narcotized patient, and a sudden pallor of her face was noticeable. I have seen similar signs of distress and shock before, on compressing the ovary during oöphorectomy, and I cannot but think that we should be careful to avoid bruising so sensitive and vital an organ so long as it is still connected by nerves and vessels with the rest of the body. Once the ligature applied, of course all transmission of reflex shock is obviated.

This was my last abdominal section on the Continent. I will here briefly describe three operations for complete vaginal extirpation of the cancerous uterus which I saw performed by Fritsch, Schroeder, and Leopold.

1.—FRITSCH. June 28th. *Epithelioma of Cervix.*

Virgin, 41 years of age; vagina very narrow; split posterior vaginal wall and half of perineum. Patient in gluteo-dorsal decubitus; Simon's specula. Uterus dragged down by blunt-pointed vulsella devised by Fritsch, which do not tear out, as the sharp points do. First incision with knife on left side of cervix, as far from diseased tissue as practicable; then at once silk ligature with sharply curved short needle, ligature tied at once and ends left long; then another incision and another ligature, deeper still, and thus, step by step, ligature and incision, each cut being guarded by a preceding ligature through the tissues until the region of the ovarian artery was reached and tied, but not divided. Then the same procedure on the right side, the last ligature around the apex of the broad ligament on each side being tied, but the tissue not divided until the anterior peritoneal pouch is opened, which is now done; the fundus uteri is seized by a vulsellum, and drawn through forwards. A small sponge with string is slipped into the peritoneal cavity. Then the peritoneal and vaginal edges are united by sutures, all of which are left long. Now, at last, the final attachment of the uterus to the broad ligaments is divided with scissors, and the uterus is entirely free except posteriorly, where it is still connected with the peritoneum of Douglas' pouch and the posterior vaginal wall. This attachment having been cut through, the uterus is removed and the peritoneal and vaginal edges are quickly brought together, and hemorrhage arrested by deep sutures, which are also left long. Careful search is now made for bleeding points, which are caught up and ligated or secured by deep sutures. The ligatures to the stumps of the broad liga-

ments, which, having been passed through the tissues, are not in danger of slipping, serve as guides to the operator, who, as a last precaution, stitches these stumps to the edge of the vaginal incision on each side, and thus prevents their slipping out of reach in case they should bleed later on. The sponge is now removed. No intestines have appeared. All the ligatures are bunched together, and carried out of the vagina, which is stuffed with iodoform gauze. No drainage tube. The comparatively small wound in vaginal roof left open. Perineal wound stitched. The ovaries were at first not touched, but as one prolapsed, it, with its tube, was ligated and removed; the other was left undisturbed. As a rule, Fritsch does not remove them unless they drop down. Hardly a few tablespoonfuls of blood were lost during the operation, which lasted an hour, and was unusually difficult on account of the narrowness of the vagina. There was no shock whatever.

I cannot imagine a safer and less laborious way of performing this operation. The one great danger, concealed hemorrhage, which cost two of my cases their lives, is certainly completely obviated by this manner of always securing a part by deep ligature before dividing it. The ligatures were passed only on the distal side, the traction on the uterus appearing to prevent hemorrhage from the organ itself.

2.—Schroeder. June 30th. *Cancer of Body of Uterus, with Cancer of One Ovary.*

Circular incision all around vaginal vault, firm downward traction of uterus. Deep ligatures on left side, then on right side, opening of Douglas' pouch and attempt to retro-extrovert the fundus, which, owing to size of the uterus, was unsuccessful. Finally the body of the organ was with much difficulty dragged out on the right side after dividing the right attachments. With the uterus came the right ovary, enlarged to the size of a fist, evidently malignant. After opening the vesico-uterine pouch, the left attachments were easily reached and divided, and the uterus and right ovary removed. Weight of uterus about seven ounces (the size of the organ in my first successful case). There was considerable hemorrhage from deep-seated points in the posterior wound, which it took some time to find and ligate. Ligatures all left long, no vaginal suture. Iodoform gauze. Duration one and one-half hours.

In this case the extreme care to prevent parenchymatous hemorrhage by previous deep ligatures before each incision was not practised in the same degree as in Fritsch's operation.

3.—Leopold. July 2d. *Epithelioma of Cervix spreading to Anterior Vaginal Wall.*

First circular incision, which in front was necessarily, for fear of wounding the bladder, carried so close to the ulceration as to render it, to my mind, more than doubtful whether the incision was in healthy tissue. A speedy return of the disease at this point seems to me inevitable.

Then pushing up bladder and vaginal wall with finger and scalpel handle as far as possible, opening of Douglas' pouch. Small sponge with long wire attached inserted into Douglas' pouch to prevent prolapse of intestines. With the left index finger as a guard in the peritoneal cavity, step by step the left broad ligament was ligated, an aneurism needle being used and the tissues pierced in each instance; the tissues being cut after each ligature. The same was done on the right side until only a slender attachment in front to the peritoneum remained, which was divided on the finger and the uterus removed. The vaginal walls were not stitched to the peritoneum, for which reason there was rather profuse bleeding from numerous deep-seated points in the pelvic cellular tissue, which required laborious and tedious search and ligation. Finally the stumps of the ligaments were stitched to the vaginal wall. Duration rather over one and one-half hours.

The patient was in the gluteo-dorsal position, as usual, and Simon's specula and retractors were used. An ingenious contrivance of Fritsch, consisting of a large hollow Simon's speculum, with rubber tubing and stopcock attached, was used as an elevator of the anterior vaginal wall and a permanent irrigator, instead of sponges.

Leopold told me that he had removed the cancerous uterus per vaginam thirty-eight times with but two deaths. Although I do not know the exact figures, from the number of specimens I saw at Fritsch's and Schroeder's and the general statements, I should judge that their results, as regards recovery from the operation, are quite as good as those of Leopold, and the number of their operations, if anything, larger. A more careful, safe, and steady operator than Fritsch, in this particular operation, cannot be imagined. I regret that I did not see Martin remove the cancerous uterus, for I am told that he seldom exceeds thirty minutes, and has done it in twelve minutes. But I can hardly conceive how it is possible to absolutely secure all the vessels and stitch together vagina and peritoneum in so short a time.

So far as the ultimate results of the operation, and the future immunity from the disease are concerned, I learned no new facts in addition to the published figures. But I must repeat my advocacy of the operation even though the disease returns in a year or two, provided the *immediate* mortality does not exceed that stated by Leopold.

It is a matter of regret to me that my time did not allow me to see Olshausen in Halle (who very kindly invited me), or Freund in Strassburg, operate. But I was compelled to hasten

from Berne to Geneva, where I spent two very agreeable days with my friend, Dr. A. Cordes (well known through his contributions to the *Annales de Gynécologie*) who had just been appointed physician to the Geneva Maternity; and where I met, among others, Prof. Vulliet, of the Geneva Faculty of Medicine, a gentleman exceedingly well acquainted with American and German gynecological literature; and thence to Paris. Here my friends, Profs. Budin and Tarnier, and Prof. Pinard, received me most cordially.

It was most delightful and touching to witness the veneration with which Tarnier's pupils, who had remained on terms of intimacy with him, notably Budin, Ribemont, Pinard, Bar, Champetière, treated their master, their "*cher maître*," as they addressed him. And the genial *bonhommie* of Tarnier, and the *entente cordiale* which existed so evidently between master and pupils could not but make me wish that such a mutual kindly feeling and interest were more commonly met with. As it happened, on the day before I dined with Tarnier, the national holiday, July 14th, he had been made a commander, and Budin, his favorite pupil, a knight of the Legion of Honor, and the hearty joy of the chief at his pupil's distinction was unmistakable.

After dinner Tarnier showed me his new instruments for crushing and extracting the fetal head, the *basiotribe*, evidences of the efficacy of which, both as crusher and tractor, had been shown me, by Budin, at the Maternity, in the shape of a number of casts from the subject. In construction it is simple, and it is not very expensive.

He also demonstrated to me his latest model of the traction forceps, in which the attachment of the traction-rods seems absolutely perfect, for they can be so fastened along the inside of the blades during introduction as to be entirely out of the way, and when the forceps are locked the traction-rods can at once be loosened and brought into action.

I had no opportunity to see laparotomies in Paris, for the French seem at the present day still to devote their energies chiefly to obstetrics, and, with few exceptions, practise but little operative gynecology, according to the modern school. Some of their rising young men, with Budin, Pozzi, Ribemont, Doléris, and a few others at the head, show a decided inclination to emancipate themselves from the old-fashioned round-speculum and porte-caustique practice of their elders, and to follow in the lead of their colleagues in America, England, and Germany,

after a fashion worthy of the ancient renown of their country as a leader in that branch of medicine.

Paul Bar, in Paris, had just performed a successful old-fashioned Cesarean section, and Doléris had lost a Porro operation.

The chief point of interest for me in Paris was to witness the treatment by galvanism of uterine fibroids employed by Apostoli, whose published results had excited my curiosity. Although this gentleman is looked upon as, and undoubtedly is, an enthusiast in the use of electricity for uterine disorders, what he showed me was abundantly sufficient to convince me of the immense value of the galvanic current in fibroid tumors. By discarding the usual large flat sponge as the external electrode, and substituting for it a thin layer of wet sculptor's clay wrapped in ordinary gauze, in the surface of which the zinc disc attached to the battery cord is gently embedded, he is able to pass a current through the desired part of the body (from vagina or uterus through a fibroid growth of any size to the surface of the abdomen) of an intensity as high even as two hundred milliampères. The influence of a current of such strength in altering the nutrition of a neoplasm must of course be enormous; and such an effect cannot be expected of a current of the moderate intensity (no higher than twenty milliampères) which I have found was all my patients could bear with the external sponge electrode. Even with 200 milliampères, Apostoli's patients experienced no actual pain on the skin of the abdomen (where the negative pole is placed) except when sudden interruptions up or down were made in the current.

The internal electrode was usually a platinum sound passed into the uterus. But if the fibroid was easily accessible from the vagina, he was in the habit of thrusting a steel needle into it through the vaginal wall. The sittings were given two or three times a week, of ten to fifteen minutes' duration, and the treatment might continue over a series of months. He demonstrated to me, and I myself examined fully a dozen women with fibroids of different sizes, sounding each case, and asking them any questions I desired as to their former and present conditions, and the uniform reply was that menorrhagia had decreased, the general health had improved in every way, and from miserable, ailing women they had become comparatively strong and healthy.

A *very* marked diminution in the size of the tumor could not always be claimed; but a diminution of one-quarter to one-third was quite the rule. I had the opportunity in several cases of

comparing the present size with that before treatment, as shown by plaster casts of the abdomen, and could, therefore, verify this statement. The improvement in the hemorrhage and in general health was achieved quite as much by intra-utero-abdominal galvanization, as by electro-puncture. If decided diminution in size was intended, vaginal puncture would prove more efficient.

That Apostoli's enthusiasm would at times lead him too far was shown me by a case of intrauterine polypus, which was plainly felt through the fairly dilated external os, and which, because he said the attachment was broad, he was treating by electro-puncture. Most gynecologists would simply have completed the dilatation of the cervical canal, and have removed the tumor by vulsellum, spoon-saw, and scissors.

But I am confident that in the galvanic current, used at as high an intensity as the patient can bear, we have a most powerful agent for not only controlling the growth, but also the symptoms, chiefly hemorrhage, of fibroid tumors of the uterus of all sizes and locations—an agent which I would strongly recommend to our specialists for thorough trial, before hastily resorting to oöphorectomy and hysterectomy.

I also saw several cases of chronic pelvic exudation which were under treatment by galvanism, and in which Apostoli claimed that the brawny exudate had greatly decreased in size; these were treated both by simple vagino-abdominal galvanization and by electro-puncture.

In corroboration of Apostoli's experience, I will mention that, in one of the few cases in which I have used electro-puncture for fibroids, three sittings of half an hour with a current of twenty-four cells were employed, when the patient left the hospital (March, 1885). A year later, she returned for a pelvic cellulitis, and I found that the large hard fibroid which had nearly filled the pelvic cavity, and extended half-way to the umbilicus on the right side, had almost completely disappeared.

Arrived in London, I found a letter from Mr. J. Knowsley Thornton inviting me to an abdominal section on the following day, and an ovariotomy two days later.

Mr. Thornton, as is well known, is one of the surgeons to the Samaritan Free Hospital, and a rigid adherent to antisepsis in laparotomy, including the spray. His antiseptic is carbolic acid. He operates in the small ward of the hospital, the walls papered and hung with pictures, the floor of wood, thus render-

ing the scrupulous cleansing and disinfection of the operating-room, practised by the Germans who do not use the spray, substantially impossible. The patient remains in the room where the operation took place.

Mr. Thornton is a very careful, minute, and painstaking operator, taking no chances of failure merely for the sake of dash or appearances, or of finishing an operation in a certain number of minutes. I have never seen the abdominal suture so deftly and neatly applied. His results with careful antisepsis are very good, although no better than those obtained by his colleague, Dr. Bantock, in the same institution, without antiseptics.

CASE XIX.—THORNTON. *Abscess of Right Ovary Perforating into Vagina. Laparotomy.*

July 19th, 2:30 P.M.—Rubber cloth with slit in centre, fastened to abdomen with collodion, and hanging over the edge of the table on either side, to carry off fluids. Medium incision. Extensive adhesions of right ovary, filled with pus, and tube; while detaching these with the finger, rupture of ovarian abscess into peritoneal cavity, very fetid pus. Rapid removal of ovary and tube, ligation of pedicle with silk; then repeated and very careful mopping out of peritoneal cavity with a large sponge soaked in corr. subl. sol. 1 : 1,000, whereby the odor was entirely controlled. Then Mr. Thornton poured the abdominal cavity full of boiled water at a temperature of 100° from a large can, pouring it in by the gallon, again and again, until it flowed out perfectly clear and sweet. (This water was not made aseptic, except by boiling.) The residue was squeezed out or mopped up. A straight glass drainage tube was introduced, and the wound carefully closed with silk, a straight needle on each end being used without a needleholder. The vagina was thoroughly irrigated with corr. subl. sol. 1 : 1,000.

The sponges, a number of which had been put into the abdominal cavity, were carefully counted before the wound was closed, there being, if I recollect rightly, as many as seventeen sponges.

CASE XX.—THORNTON. *Simple Ovarian Cyst—Second Ovary also Removed.*

July 21st, 3 P.M. Perfectly simple case, no adhesions; cyst tapped in dorsal decubitus with Sp. Wells' large trocar. Usual silk ligature to pedicle, dropped. Second ovary slightly cystic, also removed. Complete closure of wound. Both these patients recovered.

The case of perforating abscess of the ovary was one of those rather rare instances in which such an abscess perforates into the vagina, and thereby simulates the ordinary true pelvic abscess, in which the pus follows a pelvic cellulitis, and is situated in the pelvic cellular tissue outside of the peritoneal cavity. Probably, when the purulent ovary is firmly adherent to the

bottom of Douglas' pouch, a *free* incision with irrigation and drainage through the vaginal roof would also bring about a gradual closure of the abscess and recovery, as in true extraperitoneal pelvic abscess. Laparotomy is in such cases, of course, always the most certain mode of treatment.

Dr. Bantock differs from his colleagues at the Samaritan in using no antiseptics whatever, boiled water sufficing for his cases. He also is a very careful operator, not hasty or rash, and his results are excellent.

CASE XXI.—BANTOCK. *Chronic Peritonitis from Rupture of Ovarian Cyst; Extensive Adhesions. Removal of Cyst. Drainage.*

July 21st, 9 A.M. Patient greatly debilitated; abdominal cavity full of thin, brown fluid; inflammation of peritoneum and cyst-walls, almost universal adhesions. After emptying the abdominal and cyst cavities (patient on back), as the adhesions were broken down with the fingers and the sac withdrawn, pedicle ligated and dropped. Considerable oozing. The abdominal cavity was thoroughly washed out with tepid, boiled water poured in by the pitcherful, until it escaped perfectly clear. The excess was squeezed out and mopped up, and the oozing from the adhesions was arrested by packing large sponges against the raw surfaces, which were removed when the abdominal wound was closed by silk-wormgut sutures. Straight glass drainage tube. Ordinary dressing.

Bantock used a device which I also saw Thornton employ, namely, a piece of rubber cloth with a small button-hole for the head of the drainage tube, which cloth was doubled over the mouth of the tube, and kept it sealed, besides protecting the dressing.

No cautery was used to the pedicle in this or any other operation I saw in England.

CASE XXII.—MEREDITH. *Large Pediculated Subperitoneal Fibroid. Pregnancy two Months. First, Removal of Fibroid, and then of Uterus and Ovaries.*

July 23d. Carbolic spray, so as to keep the patient and surgeons enveloped in a thick mist. Long incision; tumor, size of adult head, attached by slender pedicle thickness of thumb to right horn of the uterus. Transfixion and ligation of pedicle; removal of tumor. The operation then seemed practically concluded, and I expected to see this small pedicle dropped. But the operator noticed that the uterus was enlarged and elastic to the touch. On inquiry, it was ascertained that patient had missed two periods, hence pregnancy was probable. Imbued probably with the idea of attaching the stump of the pedicle to the abdominal incision, and treating it extraperitoneally, the operator did not wish the uterus to enlarge and drag upon the

pedicle, and thus produce an abortion, and, to obviate this danger, decided to remove the uterus with its contents, which he did after transfixing the cervix and throwing a wire serre-nœud around it. The fetus escaped when the uterine cavity was opened. The stump was painted with tr. iodine, probably as an antiseptic, and the peritoneum sewed over the stump, which was then attached to the lower angle of the wound by sutures.

With due deference, since I do not know, but merely guess at the motives of the operator for removing the uterus, I must criticise this latter part of the operation. It appeared to me and to others present that the small pedicle of the fibroid could have been dropped with perfect safety, as in any ordinary case of ovariotomy, and that in all probability, the attachment of the fibroid having been so slight, the pregnancy would not have been interfered with. And even if abortion had ensued, that event would have been free from unusual danger. In short, the removal of the pregnant uterus and ovaries seemed entirely uncalled for.

However, I make this criticism with all proper caution, for the operator *may* have had reasons for his action which were not apparent to the spectators.

On receipt of a note from Mr. Tait that he would do two laparotomies on the next day, I went to Birmingham, and had the good fortune to see him do three abdominal sections in one day.

So much has been written about Mr. Tait's peculiar methods that I shall not repeat what is probably well known to those of the profession interested in laparotomy, but will merely give a very brief sketch of what I saw.

Tait operates both in his private hospital and a small public institution in a suburb of Birmingham. He operates in the sleeping-room of the patient, uses absolutely no antiseptics, either for hands, instruments, sponges, or about the room, which is papered, hung with pictures, and small, filled book-shelves, etc. On being notified that the patient is under ether (by Clover's inhaler, which I have used exclusively for about three years), Tait proceeds to the room, removes his coat, strips up his sleeves, washes his hands and arms, puts on an apron, takes a knife from a pocketcase lying on the windowsill, tries its edge on his thumb, and makes the incision. A lady gives the ether; a male assistant (who does little but aid in tying the pedicle-ligature) stands opposite Tait, and there are two or three female nurses in the room to hand sponges, etc.

Everything is done noiselessly, quickly, and systematically, without any ceremony or fuss. The patient lies stretched at her whole length on a plain table. The instruments used are a knife, a number of hemostatic forceps, several long serrated forceps, perhaps a trocar. The pubes is not shaved nor washed by the operator before making the incision, which is very short, not more than one to one and one-half inches in length. Lifting up the tissues with two forceps, one of which is held by the assistant, Tait rapidly divides layer after layer until the peritoneum is reached, which he seizes and lifts up to the level of the skin, nicks, and at once enlarges the opening by thrusting the two first fingers of his left hand into the incision, which they completely fill. Now his wonderful dexterity and tactile sense come into play, for with these fingers he at once makes the diagnosis (which he appears to pride himself on not attempting to make with accuracy in those cases which call for removal of the uterine appendages, the so-called "Tait's operation," except through the abdominal incision), peels off the organs if they are adherent, and in a trice brings them out through the incision. With a straight Peaslee needle, he transfixes the pedicle, slips the noose of the ligature over the ovary and tube, and ties the "Staffordshire knot" always used by him, which is very simple to understand when seen, but less easy to describe or comprehend from a description. The knot being securely tied and the ends cut short, the ovary and tube are cut off with scissors, and the stump dropped without more ado. The same on the other side. A sponge catches whatever oozing there may be from adhesions, the small incision is closed by two, at most three, silk sutures, a small pad of absorbent cotton is placed over the wound, which is so small as to appear merely like a faint red line, and the operation is concluded.

Case XXIII.—Tait. *Double Oöphorectomy for Constant Pelvic Pain and Dysmenorrhea.*

July 24th, 9 A.M. Neither ovaries or tubes enlarged. Duration nine minutes.

Case XXIV.—Tait. *Prolapsed and Adherent Ovaries, somewhat Enlarged; Oozing; Drainage tube.*

July 24th. Symptoms chiefly sacralgia, general pelvic pain, dysmenorrhea. Both ovaries prolapsed behind uterus and adherent; some difficulty in detaching adhesions; considerable oozing; straight glass drainage tube; after closing wound, a little bloody serum was sucked out of the tube with a long nozzled glass rubber-bulb suction tube, similar to a milk pump. Duration thirteen minutes.

CASE XXV.—TAIT. *Small Dermoid Cyst of Right Ovary somewhat Adherent; Left Ovary Enlarged; Double Ovariotomy.*

July 24th. Before beginning, Mr. Tait asked Dr. Wylie and myself (who were the only spectators) to make a digital examination with a view to diagnosis. I hastily did so, and gave it as my opinion from the rounded shape and dull elastic feel of the mass I felt on the right side and behind the uterus, that it was a small ovarian cyst and probably adherent. Mr. Tait remarked that the symptoms all pointed to tubal disease, an opinion which Dr. Wylie, who examined after me, concurred in.

On opening the abdomen and inserting his fingers, Tait pronounced it to be small ovarian cyst, and passing in a long slender trocar between his two fingers he punctured the sac, and his diagnosis was completed by seeing the sebaceous matter escape from the canula, showing it to be a dermoid. With extraordinary dexterity, considering the size of the incision (only 1½″), Tait seized the cyst with long forceps and gradually drew it out, using a second trocar to puncture the sac again, and in a few moments delivered the tumor, which had originally been of the size of an orange, no fluid having entered the abdominal cavity. After ligation and removal, the second ovary was found enlarged and also removed. Duration fifteen minutes.

We also saw Tait do an operation for complete laceration of the perineum, which was certainly ingenious and original. The patient had once before been operated on, but the sphincter had failed to unite. The operation was performed on the patient's bed, she being in the gluteo-dorsal position at the edge, her legs supported by an apparatus, Tait kneeling before her on the floor. With short stout scissors, bent on the edge, he cut through the bridge of the perineum remaining from the first operation, and then thrusting the point of the scissors into the recto-vaginal septum near the median line, with two strokes he cut outwards and slightly *upwards* to the border of the skin on either side, thus separating the vaginal and rectal walls for a short distance. With a second incision on either side, but pointing outward and slightly *downward*, he loosened the separated edges of the sphincter ani muscle. This all was but the work of a moment. With a straight Peaslee needle he first united the upper half of the wound, using three sutures of silk worm-gut which he took from his mouth; and then in the same manner he drew together the posterior half of the wound and the sphincter with two sutures. When the sutures were all tied, the perineum certainly appeared restored, although there was not a very smooth or perfect coaptation of the skin. No tissue whatever was removed, whether cicatricial or otherwise, certainly an advantage for a future operation in case of failure to secure union. The shape of the incisions might be likened

to two capital Y's placed horizontally against each other, thus ><. The operation certainly did not last longer than ten minutes, which is also an advantage, if it proves successful.

While at Birmingham, I received the following letter from Dr. Thomas Keith in answer to an inquiry whether he expected to perform a hysterectomy for fibroid during the coming week:

"DEAR DOCTOR:—I am very sorry that there is no prospect of any operation for fibroid. I have not a single one in prospect. I never do any but large tumors for which there seems no other remedy, and then usually only when they are not very old. The large tumors seem to have quite disappeared from here. Look at it as you may, hysterectomy is a very risky operation, and the natural history mortality of fibrous tumors is practically *nil*. I have worked among them for the last thirty years, and that is my experience. . . . Is there no chance of your coming here, even though there is no fibroid to show you? It would give us much pleasure. I am, sincerely yours,

"THOMAS KEITH."

This expression of opinion on the indication for hysterectomy in fibroid tumors by the most successful operator in that particular class of cases should be a warning to us all to refrain from hasty operative interference in such cases.

A short visit to Liverpool at the invitation of Dr. Alexander, to see him do his operation for shortening the round ligaments, which he did very dexterously on both sides in less than half an hour, brought my professional visit abroad to a close. From the difficulty Dr. Alexander had in finding the ligament on the right side, after he had easily isolated it on the left, I can readily see how a less experienced surgeon might miss it in fat subjects, or when the ligament is attenuated or pale.

After several pleasant days spent with my old and valued friend, Dr. J. Braxton Hicks, at his town-house and at his country-place, at Lymington, near Southampton, I sailed for home on August 1st.

I have thus seen twenty-five abdominal sections performed by fifteen of the first laparotomists of Europe. Since my object was mainly to see laparotomies, not to report results, I have taken no special pains to inform myself of the termination in many of the operations I saw.

If I were to attempt to reply to the query, whether one of the objects of my journey was accomplished, and whether I could explain why we have not as yet achieved results in ab-

dominal section which can compare favorably with those of the best foreign operators, I should be at a loss how to answer. A perfectly satisfactory explanation to myself I certainly cannot as yet give. But there seem to me to be two main reasons why European operators excel us, and these are, not in their superior surgical dexterity, but:

1. Because in Europe laparotomies are more concentrated, fewer operators perform proportionately more operations, and therefore each operator acquires a greater dexterity and a more varied experience in handling exceptionally difficult cases, that is, greater confidence.

This greater concentration of cases, of course, gives the operator a larger variety for selection, and obviates the tendency natural to all surgeons to operate whenever there is a fair prospect of success. An operator with few opportunities will thus be likely to take more chances than one who is overburdened with material.

2. The majority of European laparotomists, chiefly those who are clinical professors, have at their disposal operating-rooms, clinics, and wards fitted up with every facility and with every modern contrivance for guarding against infection, and are assisted by a staff of trained aides, whom long experience renders familiar with every detail of the operation and the after-treatment.

The number of these assistants and nurses is generally as small as the operation can possibly be performed with, the operator himself doing most of the handling of instruments and sponging. Absolute cleanliness, with or without antiseptics, insures reasonable safety from infection.

In consequence, a system is observed which renders errors, both of commission and omission, rare, and reduces the admission of noxious and septic influences from without to a minimum.

That the *morale* of the patients is elevated by this thorough system is evident, and this is in itself an important factor to success.

The length of the abdominal incision does not appear to be important, since German surgeons with long incisions, and English operators with short incisions, have equally good results.

Whether climate or the constitutions of the different races exercise any influence on the result, *pro* or *con.*, must still remain undecided.

If European women are more robust than ours, certainly this

can apply only to the German peasantry, whose work in the fields gives them powers of endurance not possessed by the majority of our house-bred women. In the middle and upper classes, the constitutions appear about the same.

Hence I can arrive at no other conclusion than that by a careful study and imitation of, and perchance eventually an improvement on the methods of the most successful foreign operators, we must seek to equal or excel them in course of time. I trust that this brief and incomplete, because discursive, report of some of these methods may aid those of our operators who are not satisfied with their results in improving them.

In conclusion, I desire here to publicly express my thanks to all the gentlemen mentioned in this report, for their courtesy in permitting me to witness their operations, and my warm obligations to those of them and others who extended to me social civilities which helped greatly to render my trip enjoyable and memorable.

S. S. "FULDA," August 9th.