REMARKS ON OVARIOTOMY.

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RARELY can an operation have such a fate as ovariectomy. In 1843, Dieffenbach, the boldest of all surgeons then living, wrote that ovariectomy was murder, and that every one who performed it should be put into the dock. Now we save lives with it by the hundred, and the omission of ovariectomy in a proper case would, in these days, be looked upon as culpable negligence.

But the operation of ovariectomy has also something peculiar to itself. No operation requires so much experience and courage. In no operation is the most important qualification of an operator—the power of meeting unexpected difficulties—brought into so clear a light. One never knows what may be encountered; if there be adhesions and where, what the pedicle may be, its length, and so on. And in no other operation is the terrible fact so true, that *no operator in his first twenty cases will have such good results as in his second or third twenty cases.*

This terrifying proposition is true as a matter of fact, and it is well that the public is ignorant of it; for no operator can begin with his twenty-first case, and must, therefore, get over his "reign of terror". This can certainly not be said of other operations. I am quite convinced that many a young surgeon has done his first amputation as well and with as good a result as his fortieth or fiftieth. Speaking truthfully, this could not be said of ovariectomy; and it must be insisted upon, that every beginner has previously assisted at twenty or thirty operations.

When I look back twelve or fifteen years, and recollect how slight were the preparations in my clinic for an ovariectomy, and how it was performed as compared with the precautions now taken, no one can wonder that the mortality has been so much diminished. After I had obtained all the information I possibly could from reading all the works I knew of, I at last began to operate. My first six cases—certainly most unfavourable cases—all died. This so discouraged me, that I ceased to operate, and I spent two of my holidays in going to Spencer Wells in London and learning there. Then I operated again and with better results; but still lost half my patients. Then drainage still further improved my results, and death from septicæmia, which had been by far the most frequent cause, was much less frequent; and, since the adoption of Lister's antiseptic, there has not been a single example of septicæmia, and the proportion of recoveries has been in the highest degree satisfactory.

Thus, the antiseptic method, and next the careful avoiding of any cooling of the blood, which is so serious when the peritoneum is exposed, lead to results which were previously quite unattainable; but we must not, therefore, avoid the trouble of a very careful preparation. This care yields a rich return. Formerly, the patient was placed on the table, the tumour removed, the peritoneum cleansed as much as possible, and the wound closed. Now, after a soap-bath, the patient's abdomen is shaved, cleansed with ether, and several times washed with a five per cent. solution of carbolic acid. The whole surface, except the abdomen, is carefully covered with very warm towels, and a hot-water India-rubber bag is placed between the feet in order to restore to the mass of the blood, by warming the periphery, what is lost by laying bare a large surface of peritoneum. And our sponges and instruments are placed in a five per cent. carbolic solution, and our clean washed hands are disinfected by the same solution. The room and all liquids and objects are also warmed, if possible. Lastly, a carbolic cloud from two steam-sprays is directed upon the abdomen, and the operation begins. A dense carbolic mist covers the whole field of the operation, until, at the conclusion, a protective Lister's bandage has been applied.

The operation itself has also of late undergone some modifications. The small arteries which jet in the abdominal wall are closed by catch-forceps, which renders subsequent tying generally unnecessary, as, by the time the operation is ended, a sufficient thrombus has formed. Admitting that even a solid thrombus is not an absolute safeguard, and that only a complete soldering of the arterial cells is thoroughly trustworthy, yet the thrombus is here sufficient, because the sutures which close the opening in the abdominal wall obviate bleeding.

Frequently, and especially in cases where there have been manyappings, the front wall of the ovarian cyst is strongly adherent to the

abdominal wall, so that it is difficult to recognise the boundary of the peritoneum; and beginners often mistake the peritoneum for the cyst-wall, and separate the peritoneum in large surfaces from the abdominal wall. These adhesions cannot be separated without danger, because their separation often bursts the cysts, and thus the contents flow amongst the intestines. When the cyst-cells are very delicate and tense, I puncture immediately; whereas, when the cyst-cells are firm, I prefer, before puncturing, to carry the right hand, after repeatedly washing it in a five per cent. solution of carbolic acid, into the peritoneal cavity and around the whole tumour, in order to ascertain what adhesions there may be, and if they can be separated. It is then that we are first enabled to form a prognosis of the operation. Thus the length and thickness of the pedicle are ascertained. For the puncture, I always bring the patient on to her side, and when so much fluid has escaped that folds of the cyst wall begin to form, I seize and hold them with secure forceps, enlarge the peritoneal opening by the knife, carry one hand within the opened cyst, and with the finger or the knife puncture the inner cysts so that their contents may escape through the cyst first opened. Having thus emptied the fluid part of the tumour, I then endeavour to lift out the whole mass. I have often found one or several cysts filled with such thick contents mixed with hairs, that I have been obliged to scoop them out with my hand, which is objectionable, as the hand must be thoroughly washed before it can be used to lift out the harder part of the tumour. I say "lift out", because I do rather lift out the hard tumour with the washed and carbolicised hand from the bottom of the pelvis than draw it out with forceps.

Now comes the separation of the various serious adhesions; I only separate slight adhesions by the fingers. The more I operate, the less I employ this mode of separation; because it readily gives rise to bleeding, which is stopped with difficulty. I tie serious adhesions with catgut and divide them with scissors. Very strong vascular adhesions I tie twice, and divide between the two ligatures; thus, it often happens that portions, one, two, or three *centimètres* square, remain hanging from between the cyst wall and the intestines or uterus, etc., because I prefer rather to tie and divide the adhesions than to tear them off by the hand. Nevertheless, I have forcibly torn off large pieces of cyst from the abdominal wall, from the bladder and rectum, etc., when large surfaces of the cyst wall were adherent. I have never left one single operation incomplete, and a very encouraging proportion of such bad cases have terminated favourably, so that I have not altered my opinion of late years. I have frequently in this manner perfectly overcome serious after-bleeding from dozens of small vessels, with only the supplementary compression of the abdomen with two bricks (of eight to nine pounds) which I wrapped up in paper and laid upon the Lister's gauze bandage. Neither the actual cautery nor the liquor ferri answers for such large surfaces.

Once I was obliged to separate the ovary from the uterus for a surface as large as a hand. The uterus bled so freely and from such numerous vessels, that I could not trust to my bricks. Had it been a cyst-wall I should have left it hanging to the uterus; but it was a solid sarcomatous mass. I covered the bleeding surface of the uterus with a flap of peritoneum, which I had separated from a neighbouring cyst, and which was in connection with the peritoneum of the pedicle, the vessels of which I tied separately. I used the uninterrupted suture of catgut.

This was the case in which a piece of the right ureter closely adhered to the ovarian tumour, and was removed with it. As I have published in a monograph, the case recovered well and without danger, but a fistula remained in the linea alba some *centimètres* below the navel, from which half the urine came away. The sufferings were so great, especially in walking and standing, and all contrivances and sponges which I fastened on were so imperfect, that I was driven to attempt a radical cure by operation. After the example of the late Simon, extirpation of the right kidney appeared to me not to be permissible, as the patient was too old and too much depressed. The amount of secretion was so great, that obliteration of the fistula could not be thought of; and in either case the left kidney would have had double work. I therefore adopted a third course. I formed an artificial ureter, and carried it into the bladder from the fistulous opening below the reservoir of urine which had formed below the navel. I could not find, by means of Simon's speculum, the opening into the bladder of the ureter, which had been cut away. So I passed a trocar through the urethra and through the wall of the bladder in the ordinary direction of the ureter, and carried up the trocar into the reservoir of urine below the navel, left a drainage-tube in, and, after several interludes, succeeded perfectly in establishing a channel for the urine into the bladder. After that, it was easy to close the fistula in the linea alba; and with great pleasure I now take up my pen to relate that now, after several years, this ureter acts perfectly, and the patient has no idea that an ureter was defective,

and that an artificial channel has been formed in her abdomen. She is perfectly well, and without complaints.

Quite recently, I have met with adhesions which embarrassed me still more. Confidently hoping to operate on a multilocular ovarian cystoid, I performed laparotomy last March, and found a multilocular cystoid without any pedicle connected with the uterus, but the cystoid was widely sessile upon the lower portions of the small intestines, and I was obliged either to leave the operation incomplete or to cut away the numerous cysts, varying in size from a fist to a child's head, close to the intestine. My friend Dr. Bratsch, who administered the chloroform, and my assistants, Drs. Egger, Messerer, Seydel, and Frobenius, all concurred with me in the opinion that we had to deal with a hardened omentum, for the cysts lay all along the course of the intestine. I decided to cut them away, and did so with Cooper's scissors. A coil of intestine about forty *centimètres* long (sixteen inches) was now free and unattached in the abdomen like a sausage, and the cut surfaces bled so freely that I was obliged to use fourteen catgut ligatures. I confess that we were all very uneasy, fearing that this long coil of intestine would become gangrenous, or its functions be lost, its peristaltic movements checked, etc.; and at each visit my first question was as to vomiting, which, however, never occurred. I had put five drainage-tubes to the lowest part, and brought them out at the lower angle of the wound. To our great astonishment, all went on well. Flatulence was troublesome on the fourth day, but was relieved by putting the patient on her side, and leaving an enema-pipe for a few minutes in the anus. The first stool, on the eleventh day, was very troublesome, clay-like, and, in spite of oil and water enemata, could only be removed by a spoon. This did not alarm me, as I had often seen it after long use of morphia. Everything went on as in other successful cases, the patient gained strength, healed quickly, and left the hospital in the best health after six weeks.

Hardening of the omentum being very rare, the cysto-sarcomata removed were examined very carefully, in order to see if there might not be some connection with the ovary, but nothing like a point of connection could be found. I and the five other surgeons present at the operation could have no doubt, for we all handled the free sausage-like intestine.

In the course of the year, I have greatly altered my treatment of the pedicle, and I can say that I have tried all kinds of treatment; and, before the adoption of the antiseptic method, I have found something very bad in each method. At first, I used the clamp. It has the great advantage that it affords a perfect safeguard against bleeding; but, if a pedicle be short, it causes painful traction on the uterus, and the worst is that we can never know how deep the gangrene of the pedicle may extend, for the pedicle becomes sloughy and offensive not only above the clamp, but, unfortunately, often also for some distance behind it. The part above, by the liquor ferri, or the hot iron, and in various other ways, may be protected from putridity, while the part behind the clamp is concealed and covered by the integument. If gangrene extend behind the clamp, the peritoneum of the abdominal wall is soldered to the peritoneum of the pedicle to such an extent, that at the worst below the clamp we have a deep hole between the lips of the wound, fetid and blackened by iron, from which little is absorbed if it be carefully cleaned out. But sometimes there is no such favourable soldering; the putrefying mass runs down beside the pedicle into the peritoneal cavity, and brings certain death. If, instead of the clamp, we use a small wire *écraseur*, it is possible to watch and limit the process of gangrene, as Koeberlé has done with such great success. Koeberlé has used a funnel of thin metal to surround the pedicle and constricting wire *écraseur*, to isolate them from the healthy tissues, and disinfect them by frequent injections. I have myself, after I was convinced that gangrene of the pedicle behind the clamp frequently leads to death from septicæmia, secured the pedicle with a small wire *écraseur*, and wrapped up the pedicle, the wire *écraseur*, and five or six drainage-tubes, which went down to the lowest part of the pelvis, in a piece of oiled silk, and have so isolated the pedicle. This, of course, obliges us to leave the lower angle of the wound open, and the method is no longer intraperitoneal. This modification saves all traction if the pedicle be short, for the loop of wire can be applied quite deeply in the pelvis. This mode of treatment shews also very clearly what great danger there may be in simply tying a pedicle, dividing it, and allowing it to sink into the pelvis. If the pedicle be thick and tightly compressed, immediately after dividing it one or two large thick-walled vessels spout, or after two or three hours the loop is already so loose (whether of wire, catgut, or silk,) that it can be pulled off like a loose finger-ring, and violent bleeding is possible. This thinning of the pedicle illustrates the law that compression favours the absorption of fluid masses and the softening of thick tissues; besides, the wound or division of the pedicle allows serum to exude, and so diminishes the pedicle.

Burning off the pedicle with hot iron alone, without ligature, is only successful when there are no large vessels. In all the cases where I have divided the pedicle with the cautery, I was either obliged afterwards to tie a pair of spouting vessels, or else, as a precaution, I tied a strong ligature round the whole pedicle behind the eschar. Latterly, I have tied the pedicle with strong catgut in several small portions. But it is always very important not to divide the pedicle too near the ligatures, or they may slip off. This last method accords best with the antiseptic treatment. The pedicle is left quietly in the pelvis, the abdominal wound carefully closed and antiseptically bandaged.

After the treatment of the pedicle, we have next the so-called "toilet of the peritoneum". The cleaner the intestines, the omentum, the abdominal walls are polished—the more carefully the different valleys of the pelvis are purified—so much the more confidently may a good result be expected. Twenty times have I gone into the abdomen, removed blood-clot from the liver, omentum, uterus, etc., repeatedly thrown a 2½ per cent. solution of carbolic acid into the cavity, and then carefully wiped it all out with fine sponges, in order to make all quite clean; and so have obtained rapid and happy cures. But now, since I not only know better the excellent effects of carbolic acid, but also its dangers, which Lister himself has often pointed out, I have become more careful in my "toilet of the peritoneum". I no longer throw bottles of carbolic solution amongst the intestines. I confess a shudder comes over me when I remember how often I have done this with success. Even the sponges which I use for the cleansing I have strongly compressed, that they may cause no carbolic poisoning. The "toilet" is especially not so complete nor so long, for I now operate under the action of two steam-sprays, and have no fear of a little residue. Any blood-clot or serum, as it is completely aseptic, is either safely absorbed or organised. Too great minuteness in the toilet of the peritoneum takes up much time, irritates mechanically, cools the peritoneum, and so may easily lead to collapse; for, as Wagner's experiments have proved, reflex paralytic conditions very readily affect the heart when the peritoneum is long exposed to a low temperature. Formerly, one had to put up with these evils, because death from septicæmia was the ordinary result of a superficial toilet. But these times are past. Death from septicæmia no longer occurs if everything have been done strictly upon antiseptic rules; not even when clot and fluids remain at the bottom of the pelvis. Quite recently, I have ceased to drain unless there was some very important contamination during the operation; and I have convinced myself that the most rapid recoveries are thus secured.

In the after-treatment, before I *Listered*, my chief attention was directed to threatenings of septicæmia. As soon as the patients showed any elevation of temperature, and presented the peculiar yellowish colouring of the face, I at once proceeded to wash away the usual secretions by repeated injections of the drainage-tubes used. Dilute solutions of chlorine, sulphuret of magnesium, carbolic water, and simple distilled water were used. But I have learnt by experience that it is not always possible to find the putrid focus of the fetid secretion. This is often somewhere encapsuled, and has no connection with the drainage-tubes. Intraperitoneal injections are an useless torment. The water runs in by one drainage-tube and out by another, and does not reach the collection of pus which is somewhere encapsuled. I have proved this in the dead-house. Generally speaking, it is the deepest spot between uterus and rectum, where the drainage-tubes are most carefully placed, where the secretions collect; but frequently the tubes themselves are so quickly capsuled that there may be secretions close to the tubes which are not reached by intraperitoneal injections.

We are exempt from all these accidents when we operate strictly antiseptically; for then, if there be effusion anywhere, it is aseptic, may be absorbed without harm, and puts the patient in no danger. As I said before, quite recently I have only used drainage-tubes in those ovariotomies where the operation was very complicated and the pollution of the peritoneum considerable. In the other cases, I have tied the pedicle with catgut in four or five divisions, cut it away rather far from the ligatures, let it sink into the pelvis, cleaned the peritoneal cavity, and completely closed the wound by two or three deep sutures of silver wire and an uninterrupted suture of catgut; then oiled silk is put on, a great deal of moist gauze, and eight thicknesses of dry gauze, with mackintosh between its last two folds, and all are well fastened with gauze bandage. This bandage always keeps quite dry, so that I have often left it undisturbed for five days, and on changing it found the wound healed. I have noted such cases in which neither local nor general disturbance, no vomiting, no accelerated pulse, no abnormal temperature occurred, so that the patients said they should believe nothing had been done if they had not sought in vain for the large abdomen. In other cases, the first hours are painful, and morphia had to be often injected, which in good cases I never entirely abstain from,

because I think I have observed that a series of inflammatory symptoms in peritoneum, bladder, and rectum are thus avoided.

In the first five or six days, the urine is drawn off by the catheter, and I endeavour to check action of the bowels; but for some minutes every day I have the patient placed on her side, and an enema-pipe placed in the anus. Thus great relief is obtained by escape of flatus.

Milk, soft eggs, ice, wine, good beer, soup, Cognac with sugar and iced-water, I give as nourishment. When vomiting has been very lengthened, an ice-bladder over the region of the stomach, or rubbing over it an ounce of collodion, has been very useful.

Against hiccup, I have mostly used with good effect morphia injections or laudanum. In the days when I always inserted drainage-tubes or pushed them in beside the wire *écraseur*, I have removed them and the *écraseur* on the eighth or ninth day, carefully washed the tubes, shortened, and again inserted them. Every day after that, I took out the tubes and washed them. Five tubes were gradually reduced to one, and this one was daily shortened. Although I fastened every tube by a piece of silk thread, yet it did once happen that the tube slipped into the abdominal cavity, became encapsuled, and only appeared after exertion weeks afterwards. The nurse believed that the tube was lost in the bed, as the patient was very restless at night. The wound healed, the patient was discharged, and five weeks afterwards, on the sixty-second day after ovariectomy, gave a ball in honour of her recovery. All the gentlemen danced with the queen of the ball, and she became greatly excited. At four in the morning, during a very lively cotillon, she was attacked with violent pain deep in the abdomen; she could waltz no longer, and, after a quarter of an hour, could not stand. She went into another room, looked at her body, and saw a movable black spot in the middle of the painful cicatrix. She fixed the black spot with the nails of the thumb and forefinger, and drew up a drainage-tube seven *centimètres* long (three inches), wiped away the pus which followed the tube, and danced away merrily again, for she had lost all pain.

The recovery of women after ovariectomy is generally surprisingly rapid, even if before the operation they could eat nothing and vomited everything. A withered skeleton, with dried-up skin, in a few weeks becomes plump, and her appearance rewards our thousand cares with unusual pleasure and astonishment.

REMARKS ON METALLIC AND MAGNETIC THERAPEUTICS.

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THE late reappearance of the doctrines—long since regarded as flimsy and played-out superstitions—of the influence of magnets and coins on certain states of the human body, is certainly somewhat startling in these days of increased respect for scientific methods of research—a respect evinced nowhere more strongly than in the field of medicine. The accounts that reach us from the other side of the Channel of sensibility abolished and resuscitated by the application of coins and the approximation of magnets to the body, would seem, in their apparent absurdity and effete dress, to be quite unworthy of serious consideration, were they not endorsed by well-known and honoured names among physicians and others of scientific reputation. It can scarcely be denied that M. Charcot's rehabilitation of Dr. Burq's methods, under the name of metallotherapy, no less than his doctrine of the influence of magnets and solenoids on the human organism, are at first sight so improbable, so liable to fallacy in their data, not to mention their suspicious kinship to exploded fancies, that an attitude of the strictest scepticism is needed before their claim to be regarded as scientifically approved facts can be justified. In the investigation of well-known and undoubted phenomena on the healthy and diseased organisms, we are frequently calling into requisition new aids to our senses, and checks on too hasty conclusions drawn from our impressions; and endeavour, by constant repetition of observation and experiment, to verify all newly alleged facts, and *à fortiori* every generalisation or theory deduced therefrom. Surely, then, the study of the causal relation between any given agent, whatever it may be, and the confessedly shifting and subtle material of altered sensations, and the protean phenomena of hysteria, involving, moreover, results to some extent dependent on the patient's statement of subjective impressions, requires the severest scientific jealousy in its prosecution.

The following remarks are prompted chiefly by a perusal of Professor Gamgee's account of his visit to the wards of Professor Charcot, in the Salpêtrière Hospital, published, among other interesting papers on the same subject, in the BRITISH MEDICAL JOURNAL of October 12th. This endorsement of the conclusions arrived at by the French observers, being the most noteworthy English utterance on the subject, seems to call for some critical observations.

The phenomena of hysteria, hystero-epilepsy, and even the so-called "mesmeric" exhibitions, occurring in several of the cases alluded to in the above-mentioned paper, may be regarded as established facts, similar cases having been more or less known and described long since. Parenthetically, however, it may be observed that such mesmeric phenomena, although indubitably often genuine, are frequently consciously imitated and produced at will; and that, before accepting them, all possibility of collusion between operator and patient, or delusion of the former and deception by the latter, must be eliminated.

Admitting, then, the facts of rapidly disappearing and returning sensibility, of transferred sensation and the like, as genuine and indisputable, the question at issue is: whether there is, as Professor Gamgee appears to believe, a real causal connection between the special agents used and the effect produced; or whether there be not another factor in the process, well-known and competent to produce results of the nature of those alleged, quite independently of the particular instruments called into requisition, such as coins, magnets, or solenoids.

The influence of attention in lessening or increasing the sensation of pain, even in healthy normal organisms, is too well known to need fresh demonstration; and that, in what are called the hysterical and neurotic temperaments, more marked and curious modifications of sensation are apt to occur, clinical experience amply shows. Moreover, the manifold phenomena of morbid sensation and action, produced in states when the higher control of the cerebrum is probably in abeyance, such as somnambulism and so-called electro-biology, are familiar to most, and are perhaps nowhere more clearly set forth than by Dr. Carpenter, in his strictly philosophical writings on the subject. Kindred phenomena, in short, to those now recurring at the Salpêtrière exhibition have long been regarded as sufficiently covered by theories which do not require the special causative agency of metals or magnets. It would seem, therefore, that we have already a *vera causa* to start with at the very threshold of the inquiry.

Coming, further, to the question of so-called metallo-therapy (illustrated by M. Charcot's collection of "Sensitives"), which, however, as Mr. Ernest Hart remarks in his "Note on the Metaphysics of Metalloscopy" in the JOURNAL of October 12th, is now apparently held at a distance even at the Salpêtrière, and is giving way to the "electric current" and "magnetism" of past years, it may be noted that, in the same number of the JOURNAL, there is published, by Dr. A. Hughes Bennett, an experimental demonstration of that which, to many English readers of M. Charcot's metalloscopic researches, had already appeared to be the true view, viz.: that special "sensitiveness" to certain metals has nothing to do with the results of altered sensation, etc., obtained after the application of metallic *plaques*; for, in Dr. Bennett's case, the regulation series of phenomena, now well known from the French accounts, were found to follow the application of wooden buttons. A full account of this case, which has the immense value of a crucial experiment, with an extended criticism on this subject by the above-named author, appears in the current number of *Brain*.

Moreover, that we have no reason to seek further than some such theory as "expectant attention" to account for these vagaries of sensation would appear to be clearly indicated by a case which came under the notice of Dr. Bennett and myself at the Westminster Hospital, where the application, at Dr. Bennett's suggestion, of *wooden discs* on the left thigh of a girl subject to occasional and spontaneous attacks of anæsthesia in the right leg (the left thigh, however, never having been anæsthetic) was followed, in a short time, by complete insensibility of the part to pinching and pricking.

Having thus very shortly cleared the ground for the consideration of the latest development of the subject—namely, the "influence of magnets and solenoids at a distance on the nervous system of certain patients" (I quote Professor Gamgee's statement of a "*fact*" which he himself calls startling)—it is necessary to ask whether this conclusion, so fearlessly announced, was arrived at, judging from the Professor's own account, by a process of scientific induction worthy of the investigation of any newly alleged facts, however unimportant.

In the first place, it must be noted that the results observed by the writer of the paper in question were apparently all repetitions of previous performances. It seems clear that all experiments involving the possibility of the action of a mental, and therefore somewhat elusive, factor, or the slightest risk of the patient being "led", however un-