and can select proper therapeutic measures; we can expose the diseased portions to the eye, and bring them within easy reach of the hand, and so admit of the application of stronger and more effective remedies, which would injure any but the affected portions; further, we can control the effects of any treatment, and can early judge whether it is successful or not. Endoscopic treatment is principally indicated in those superficial inflammations in which circumscribed patches of the mucous membrane have undergone certain changes which cannot be affected any more by the usual injections of astringents or parasiticides, because those remedies are powerless in the solutions which may be syringed into the urethra without injury to the portions remaining healthy or only slightly involved. By the use of a wool tampon twisted round a wire we can apply strong solutions, or powders, or even caustics, to the diseased area. Should the lacunæ Morgagni be involved, a condition but little affected by injections, they can be exposed to their full extent, and impregnated with strong solutions, or can be touched with solid caustic, or with the electro-cautery. After dilatation of the urethra, the lacunæ are converted into longitudinal slits, into which solutions may easily be applied. Solutions of nitrate of silver may be used in the strength of from 1 to 20 per cent., or the solid stick may be applied; sulphate of copper in 2, 5, or 10 per cent. solutions, tincture of iodine, liquor ferri perchloridi and glycerine, corrosive sublimate, trichloracetic acid, liquor plumbi subacetatis, iodoform, aristol, dermatol, or airol.

RECENT PUBLICATIONS.

"An American Text-Book of Genito-Urinary Diseases, Syphilis and Diseases of the Skin." Edited by **L. Bolton Bangs, M.D.**, and **W. A. Hardaway, M.D.** Illustrated with 300 engravings and twenty full-page colour plates. (Philadelphia: W. B. Saunders. 1898.)

"Traitement de la Blennorrhagie chez l'homme et chez la femme," **E. Delefosse**. (Coccoz, Paris. 1897.)

"Traité Pratique des Maladies Vénériennes." **Henry Berdal, M.D.** (A. Maloine, Paris. 1897.)

Suarez de Mendoza, "La blennorragia." (Madrid. 1898. 59 pp.)

Fournier, A., "Traité de la Syphilis." Fasc. 1. (Paris. 1898. Rueff et Cie. 436 pp.).

Lambert, "Étude critique de la sérothérapie dans la Syphilis." (Paris. 1898. G. Steinheil. 56 pp.).

Van Niessen, "Beitrag zur Syphilis." "Hygiene," **Hann Munden**. (1898. P. Werthes. 23 pp.)

THE DISEASES OF WOMEN.

By G. Ernest Herman, M.B. Lond., F.R.C.P., F.R.C.S. Eng.,

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1. Tubo-ovarian hæmorrhage.

Dr. J. Wesley Bovée (*Amer. Gynecological and Obstetrical Journ.*, May, 1898) has written a valuable paper calling attention to some facts which there is a tendency just now to overlook. He says: "A few years back pelvic hæmatocele was a condition that every practitioner appeared to meet occasionally, and many were its supposed causes. When the study of tubal pregnancy was so universally taken up, some of the most aggressive investigators told us to search in every case of pelvic hæmatocele and we would find a ruptured tubal pregnancy." Dr. Bovée upon this remarks: "While we make no attempt to cast reflection upon the common ætiological relation to pelvic hæmorrhages of ruptured tubal pregnancy, nor upon its very frequent occurrence, we desire to offer some very conclusive evidence against the positive statements that have gone out to the effect that we will *always* find this condition in such hæmorrhages. There are many instances in which women are deeply wronged by such diagnoses. Oftentimes these hæmorrhages have occurred in virgins at a very young age and in widows above reproach." He says: "The frequency of hæmatosalpinx cannot be doubted, and ovarian hæmorrhage is by no means rare." He relates a case of hæmatosalpinx in his own practice, in which careful examination of the specimen showed not the slightest evidence of pregnancy. He has collected from other authors reports of thirty cases of tubal or ovarian hæmorrhage in which either pregnancy was impossible or no trace of it could be found, although expected and looked for. Dr. Bovée concludes his paper by saying that "to ignore such evidence of the frequent occurrence of hæmorrhage from the ovary and Fallopian tube, due to an inherent disease of these organs, and to continue to diagnose ruptured ectopic pregnancy without microscopical or other certain evidence, is to ignore scientific truths and to foster false pathology."

I agree with Dr. Bovée as to the fact that there are cases of hæmatosalpinx which are not due to ectopic pregnancy, and that

there is a tendency to overrate the frequency with which ectopic pregnancy is the cause of pelvic hæmatocele. Thus, **Cullingworth** (*Lancet*, June 19, 1897) says: "It is now pretty generally agreed that in at least nineteen cases out of twenty, the effusion, when not traumatic in its origin, is in one way or another the result of tubal gestation;" and further on, "it is abundantly clear that many of the causes of pelvic hæmatocele enumerated by the older writers are purely hypothetical, and that most of the cases attributed to menstrual disturbances, bursting of apoplectic ovaries, rupture of veins, and so on, when read in the light of our present knowledge, are easily recognised as having been misunderstood cases of early tubal gestation." Now Cullingworth has himself published in an earlier paper (*St. Thomas's Hospital Reports*, vol. xxi.) a report of seventeen cases of hæmatosalpinx carefully examined by himself. Of these there were only *two* in which the evidence of tubal gestation was complete. In no fewer than *ten* the evidence of tubal gestation rested mainly or entirely on the clinical history, no embryonic remains or other distinctive products of conception having been discovered in the parts removed. In *two* more, not only was no trace of pregnancy found, but the clinical history was inconclusive. In the remaining *three* there was evidence that the hæmatosalpinx was due to some cause other than tubal pregnancy. (In one salpingitis; one was in a woman of fifty-three; and one was a case of hæmorrhage into a tube, the other tube being pregnant). In brief, two certainly due to tubal pregnancy; three certainly not; twelve doubtful. It seems to me rather a large leap from the known to the unknown to assume that because two were due to pregnancy, twelve others of uncertain origin must have been also. And at most, the proportion is only fourteen out of seventeen, not nineteen out of twenty.

I think that the right way of putting it is that tubal gestation is the commonest of the known causes of hæmorrhage into the tubes; but that in many cases we do not know why there has been bleeding into the tube.

Doran (*Obst. Trans.*, vol. xl., 1898) has published a case of hæmorrhage from the tube without any evidence of pregnancy, or of dilatation of the tube. At the meeting of the Obstetrical Society in November, 1898, **Mr Bland Sutton** criticised this case. But his remarks upon it only went to show that the appearances present were not inconsistent with a previous tubal pregnancy. He was not able to point to any evidence, much less to prove, that pregnancy had been present. Doran expressed himself as unconvinced. This was not a case in which the possibility of pregnancy had been overlooked, for the specimen had been examined, and evidence of pregnancy searched for, by two skilled observers, but none found.

Further evidence that hæmatocele may occur without pregnancy will be found in the next paper which I quote, which aims at rectifying our present views on the common variety of pelvic hæmatocele.

2. Pelvic hæmatocele and ectopic pregnancy.

Fehling (*Zeit. für Geb. und Gyn.*, Band xxxviii.) has written an important paper on this subject. He says that increasing experience has led him to alter many of the views expressed in his text-book on Diseases of Women (published in 1893) and to oppose some teaching which is at present current.

While advanced ectopic pregnancy is rare, tubal rupture and tubal abortion are common, and Fehling holds that the differences between the two latter conditions are not sufficiently recognised. The frequency of tubal abortion is not yet appreciated. Fehling quotes from the literature of 1888-92, figures given by different authors which make it seem that tubal rupture is commoner than tubal abortion. He then gives his own experience, which is that tubal abortion is about eight times commoner than tubal rupture. His opinion is that the ovum when in the tube dies more readily than when in the uterus, because the mucous membrane of the tube is less fitted to nourish it than that of the uterus. He believes that primary death of the ovum is far commoner than any detachment or dislocation of the ovum by contraction or movement of the tube. An early ovum may, as **Leopold's** experiments have shown, be completely absorbed by the peritoneum. So that when tubal abortion occurs early, there is but small internal hæmorrhage and slight symptoms which quickly pass off. But there may be more considerable and repeated bleedings. In that case the peritoneum will absorb the fluid part of the blood, but the clot will remain, clinging about the tubes, the hinder part of the broad ligament, and Douglas's pouch; and it will excite inflammatory reaction, so that adhesions will form which will encapsule it. Fehling thinks that the old view of Nélaton, that the bleeding was primary, the adhesions secondary, was more correct than the later one of Schroeder, according to which the encapsuled space existed before the hæmorrhage. That hæmatocele is the direct consequence of tubal (mostly incomplete) abortion, is no longer doubted in Germany. It is possible that when tubal abortion has begun, rupture of the tube may yet take place. Fehling has seen two cases of this. He estimates that of intraperitoneal hæmatoceles, from 90 to 95 per cent. are due to ectopic

pregnancy. This opinion is based on the results of operations. But there are other causes, and Fehling relates cases exemplifying two: one sarcomatous growths in a woman aged 68; another, a case of blood cysts in both ovaries. Rupture of a gravid tube is often, in Fehling's opinion, due to a medical examination. The symptoms of tubal abortion are like those of tubal rupture, but are much less severe. He makes a strong statement, viz. that "*fatal internal hæmorrhage with complete tubal abortion is unknown.*" Incomplete tubal abortion, with recurrent attacks of pain and hæmorrhage, is much commoner; but Fehling says that he must decidedly oppose the statement made by others that these bleedings are dangerous to life and demand operation. He attributes the uterine hæmorrhage accompanying ectopic pregnancy to endometritis. [This, it seems to me, is not proved.] He disagrees with the statement commonly made that in tubal abortion the uterus is enlarged and vascular. In unruptured tubal pregnancy it is, but when tubal abortion has taken place, the uterus becomes small and hard. When a hæmatocele has formed, it is rare for subsequent hæmorrhage to take place in a patient who is lying at rest and is not examined. Fehling comments on the occasional difficulty of diagnosis between pyosalpinx and tubal abortion. He has four times operated for supposed ectopic pregnancy and found pyosalpinx. The converse mistake, diagnosing pyosalpinx and finding ectopic pregnancy, he has never made. He therefore asserts that the diagnosis of tubal abortion with hæmatocele can be made with the greatest probability, though never with absolute certainty. The statement of **Webster** that the result of tubal abortion for the mother is the same as that of tubal rupture, he rejects as false; the two conditions are quite different as to prognosis.

Fehling has had under his care ninety-one cases in which the diagnosis of tubal abortion and hæmatocele was made, and the treatment was expectant, and they all recovered. He quotes other statistics showing the very small danger attending pelvic hæmatocele when treated on expectant lines.

But what is the prognosis as to complete and permanent restoration to health? The time necessary for recovery is not weeks but months. In the Basel Clinic the average stay in hospital of such cases was 54·6 days. A woman of the labouring classes may require from six months to a year before she is again fit for her ordinary work. Fehling quotes a case related by **Kretschmar**, in which abdominal section was done thirteen years after the diagnosis of tubal pregnancy had been made, and the bones of a three-months' fœtus were found in the tube.

The prognosis, therefore, though favourable as to life is yet unfavourable as to health. The risk of the operative treatment of tubal abortion is now nothing like so high as would be thought if we judged from the earlier statistics. Fehling thinks it ought not now to exceed 5 per cent. The mortality of operation by the vagina, he thinks, is higher than is supposed; he puts it at 9 or 10 per cent. [Fehling's estimate is partly founded on his own experience, eleven cases with one death, from a wound of a branch of the uterine artery. But surely this is a preventable cause of death.]

Fehling's conclusion as to the proper treatment of pelvic hæmatocele is that it should be treated by absolute rest, with symptomatic treatment only, and without operation, except in one of the three following contingencies:—

1. Increase in size of the swelling,
2. Signs and symptoms of internal bleeding,
3. Signs and symptoms of suppuration.

A little pyrexia up to 101° is not an indication of suppuration; it often occurs in hæmatoceles that are not suppurating. He disapproves of the vaginal operation, not only on account of what he takes to be its danger, but because it is a blind proceeding, and because if a simple incision only is made, the diseased tube is left behind. If any operation is done, Fehling thinks it should be the removal by the abdomen of the diseased uterine appendages. The only exception to this rule is in cases of suppuration of the uterine adnexa. In all cases of doubtful diagnosis the abdominal operation should be chosen. Fehling thinks that a patient with one ovary, but without a uterus, is not so well off as one without either ovaries or uterus. He has several times had to remove a patient's sole remaining ovary, on account of troubles connected with it. He has also been obliged, after removal of a tubal abortion by the abdomen, to perform a second operation within a year for the removal of the other tube.

Cullingworth, in an address delivered to the Oxford Medical Society, on November 12, 1897, urges, like Fehling, that pelvic hæmatocele is rarely due to rupture. Out of twenty-five cases of hæmatocele operated on by him, in only one was the condition due to rupture. But Cullingworth gives a little different, and a more precise explanation of the ordinary mode of formation of a pelvic hæmatocele. His view is that the abdominal ostium of the tube is always open until the sixth or eighth week, and that the blood flows out through this open end slowly and in small quantity. This gives time for encapsulation, either by adhesions around the effusion, or the formation of a firm wall of clotted blood at its

periphery. Cullingworth, like Fehling, remarks on the temperature, and agrees with him on this important practical point. He says, "As a matter of fact, it is rare to meet with a case of pelvic hæmatocele without, at least, temporary rises, and sometimes the rise extends to several degrees, without any evidence of putrefactive or other morbid alteration of the effused blood." He speaks emphatically on an aid to diagnosis which has not hitherto received attention, and which is not mentioned by Fehling. It is that the hæmorrhage from the uterus [which he ascribes, not, like Fehling, to endometritis, but, as I think correctly, to the separation and expulsion of the decidua] is almost invariably *dark in colour, moderate in amount, thickish in consistence, and steady in its rate of flow.* Bleeding due to uterine abortion is copious, fitful in its rate, and variable as to colour and consistence; sometimes offensive, which the bleeding accompanying tubal abortion never is. Cullingworth's opinion as to the proper treatment of these cases is that "considering the appalling nature of the risks that have to be encountered by a patient with tubal gestation, and the signal success that has attended early operative interference," his strong conviction is that, with the exception of some few cases of very early tubal abortion accompanied with hæmatocele, the proper treatment is to operate at once in every case in which the diagnosis of ectopic gestation has been established.

Cullingworth's views as to treatment at first seem to differ widely from Fehling's. But the difference is rather theoretical than practical. Both would in practice let alone cases that are doing well, and operate in those in which there were the signs of coming trouble which Fehling specifies. The main difference is that while Cullingworth appears to think that operation is wanted to avert ulterior risk to life, in Fehling's view these risks hardly exist, and operation is indicated rather to prevent a long period of invalidism, than immediately to save life. I think Fehling's view is more in accordance with clinical facts; but in either view the correctness of his therapeutical advice is equally indubitable.

Passing from the conditions which lead to internal bleeding, I come to the inflammations of the tubes and ovaries. There is no longer doubt as to the frequency of these diseases, or as to the possibility of curing them by operation. The question now is, by what operation? In the pages which follow I bring together some of the opinions which are to-day held.

3. The treatment of pelvic inflammations.

This important subject was discussed at the meeting of the British Medical Association at Edinburgh. The discussion showed that experience is gradually bringing agreement out of discord.

One who read the debates on this subject ten years ago, would have gathered that there were two diametrically opposite methods of treating pelvic inflammations. One was to do nothing (unless an abscess was pointing), and the other was to open the abdomen and remove the uterine appendages without delay. Now, if either one of these practices is the best thing for the patient, the other is clearly a wrong-doing.

The truth is that in some cases, but not in all, surgical treatment is called for, although no abscess is pointing; and in some cases, if there be an abscess, it is not enough simply to incise it; the patient cannot be cured without more extensive surgery. The problem is to make precise the indications for the different lines of treatment. The discussion marks advance, in that it shows general recognition of the fact that different kinds of pelvic inflammation require different treatment.

The discussion was opened by **Cullingworth**. He spoke first of cellulitis, but not at length; for, as he said, there is close agreement among gynæcologists as to the treatment of this form of inflammation. The treatment is to let out pus as soon as it is discovered and is within reach.

With regard to peritonitis, Cullingworth considered two questions: (1) In what cases should we operate? and (2) When? He mentioned two others—viz.: (3) How? and (4) How much? His limit of time prevented him from answering these, but other speakers took them up.

Cullingworth stated that operative interference is not called for in simple catarrhal salpingitis, but is called for whenever there is pus. The problem, therefore, is to recognise the existence of pus. He gave the following conditions as those which indicate pus: The presence of a swelling in a posterior quarter of the pelvis, which is larger than that which could be formed by a Fallopian tube merely thickened and adherent to the ovary, and which increases in size in spite of treatment by rest in bed and warmth; the presence of a tense globular swelling in Douglas's pouch, bulging into vagina and into rectum; the recurrence of pelvic peritonitis; the presence of local physical signs, with symptoms of general septic infection.

Cullingworth then pointed out that there are conditions not attended with suppuration, such as hydrosalpinx, small ovarian cysts, etc., which properly call for operation. [About these there is no dispute.] Lastly, he said that operative treatment may properly be applied to cases of non-suppurative salpingitis, if the patient's circumstances are such that she cannot afford to have rest in bed for a lengthened period.

As to the time for operation, Cullingworth prefers to postpone it until acute inflammation has subsided. He is in this in accord with most surgeons. He quoted statistics from Mr. Clutton, showing the advantages of waiting before operating on cases of appendicitis until acute inflammation has subsided. In conclusion, Cullingworth referred hopefully to Durham's experiments (*Med. Chir. Tr.*, vol. lxxx.) on the immunisation of the peritoneum by the administration of antistreptococcic serum preliminary to an operation.

Doyen, who followed, spoke only on the question How? taking it for granted that surgical treatment is necessary. He said that any exclusive method should be rejected. There are two ways of operating—(1) vaginal, (2) abdominal. "If the inflammatory mass remains intrapelvic, and does not reach above the brim of the pelvis, vaginal operation. If the suppurated tumour passes the brim of the pelvis, and reaches the level of the umbilicus, abdominal section." By each of the above methods three distinct operations may be performed—(1) simple incision; (2) ablation of the adnexa, leaving the uterus; (3) total castration.

(1) If the purulent pouch is single, with thin walls, which he thinks will cicatrise easily, and in a young woman, Doyen contents himself with a large *incision* and tamponing the cavity. Recovery takes from four to six weeks. [I should not, from my experience, limit this treatment to cavities with thin walls. Recovery depends, not upon the thickness of the wall, but upon whether the cavity is single. A thick wall is chiefly important as indicating that probably there are other cavities. If there are, vaginal incision will not cure; but, as before the incision the parts were adherent, the incision will add no difficulty to a more radical operation later, if incision fails to cure.]

(2) *Unilateral ablation of the adnexa.*—This operation depends on the integrity of the ovary on the opposite side. If there is bilateral disease of the adnexa, Doyen cannot understand anyone removing them and leaving the uterus behind. The diagnosis can only be made in the course of the operation, and, therefore, before undertaking such an operation, the operator should get authorisation from the patient and her husband to remove as much as he thinks fit.

(3) *Total castration.*—If the appendages on both sides are purulent, this is necessary. When the abdomen is opened, occasionally an abscess cavity is cut into, which may then be drained. If the adnexa are diseased on one side only, they may be removed and the rest left. There are even cases of bilateral disease of the adnexa in which, when the parts are exposed by

abdominal section, the annexa may be left. If the uterus is healthy and not painful, and the woman much reduced in strength, the uterus may be left. If the disease is tuberculous, it is not necessary to remove the uterus. The vaginal method and laparotomy are not competing methods, for each has its own indications.

Jacobs, of Brussels, approached the subject statistically. His results are interesting as showing the risk of these operations in the hands of a competent and experienced operator, who uses modern antiseptic appliances and precautions. I quote his precepts as to the choice of operation, although I should myself not endorse such simple and sweeping rules. I think much more differentiation of cases is required. "(1) The vaginal route should be preferred in cases of old-standing pelvic suppuration, with fistula, adhesions, peri-uterine abscess, etc. (2) The abdominal route is the best in relatively recent cases in which there is no evidence that surrounding organs are seriously involved. By either route the result aimed at must be total castration—that is, extirpation of the uterus and appendages." Jacobs's results are as follows: Vaginal route, 432 cases, 8 deaths, or 1·8 per cent.; abdominal route, 98 cases, 3 deaths, or 3·06 per cent. This low mortality is satisfactory and creditable. But Dr. Jacobs, with commendable candour, adds the following casualties following operations which were not fatal: five ureteral fistulas, of which two healed spontaneously, and nine intestinal fistulas, eight of which required secondary operations.

Before these large numbers can be taken as representing the risk of the operation, we want to know the sort of cases in which it has been performed; for the risk of hysterectomy when some adhesions are the only disease present differs from that of hysterectomy when a large collection of infective pus is opened into. Jacobs has not forgotten this. Fifty-three cases of pyosalpinx operated on by the abdominal route resulted in 39 cases, 3 deaths (5·6 per cent.), and 10 in which another operation was afterwards required; 31 cases operated on by the vaginal gave 24 cures, 2 deaths (6·4 per cent.), and 7 in which a further operation was required.

Landau, who followed Jacobs, approached the subject from a different point of view. His paper was entitled "Vaginal Cœliotomy," and was an attempt to define the utility of this operation. Landau carefully defines the meaning of the term, which has not always been employed in the same way. Three things may be done by the vagina. (1) An incision may be made, but the general peritoneal cavity not opened. This is not vaginal

cœliotomy. With respect to it Landau remarks, "many vaginal cœliotomies have been performed, during which only one or two fingers were introduced into the abdominal cavity, certain resistances were felt and overcome, adhesions were severed, but their origin and connections could frequently only be imagined, not exactly determined. In other cases the finger opened cysts, from which the contents, fluid or viscid, transparent or turbid, and of all shades of colour, flowed into the vagina. Whether this fluid came from intraperitoneal or extraperitoneal sacs, from old or new cavities, remains obscure. On other occasions the finger, with difficulty, brings out ragged pieces of membrane and thick plates of exudation, while, at the same time, fluid from above comes into the vagina. Torn particles of pelvic organs, which have undergone complete inflammatory fibrous changes, so as to be reduced to cicatricial tissue, may follow. No efforts of the pathologist, no macroscopical or microscopical observation can disclose what the original process was that lead to these results." Landau points out, that so long as the uterus obstructs the opening into the pelvic cavity, "not even the most simple formation can be brought out without the most extensive and complete morcellation, except, of course, adnexa, which are normal or nearly normal in size—smooth emptied ovarian cysts or hydrosalpinges." Therefore, frequently proof of the exact nature and situation of the disease is absent.

Landau does not include these scientifically imperfect, although often therapeutically very useful, operations, under the term "vaginal cœliotomy." He includes (2) cases "in which the free peritoneal cavity was opened by a vaginal incision for the purpose of surgical interference with genuine tumours or inflammatory processes of the uterus, tubes, ovaries, or peritoneum." He does not include (3) cases of the complete removal of the uterus and its appendages.

Landau has performed this operation in fifty-eight cases without a death—the only mishap being a perforation of the bladder, which was closed at once. [Within the same period of time he has performed 208 vaginal radical operations—total castrations]. The results are instructive. The cases in which the operation was done for tumours or for ectopic pregnancy have all been completely cured. But of those in which the operation was done for inflammation, only 20 per cent. have been cured. Landau has seen in out-patient practice about fifty patients operated on by other surgeons, who came for treatment on account of new and constantly-recurring attacks. The worst permanent results were observed in the cases in which least was done. Cases of diffuse

inflammatory processes in the pelvis, can, in Landau's opinion, be cured only by vaginal radical operation; this alone permits of drainage and open-wound treatment.

Comparing the abdominal with the vaginal route for removing the uterine appendages, Landau says that the danger of the vaginal operation is undoubtedly less than that of the abdominal operation; convalescence is also quicker and pleasanter.

Landau lastly enters into the technique of the operation. He prefers a simple posterior incision. In movable retro-uterine tumours this is the best because the simplest. If the swelling to be dealt with lies in the anterior part of the pelvis, then a transverse anterior incision. If difficulties are met with, a longitudinal incision may be added to the transverse, and anterior and posterior incisions may be combined. Then the uterus is to be luxated forwards, either by a retractor or with a sound, not by a volsella, which is apt to tear it. If this cannot be done, it is better to split the anterior uterine wall by a median incision, than to run the risk of wounding it irregularly. Sewing the peritoneum afterwards is not important.

Finally, Landau considers the limitations of the operation. The size of the incision is limited, by the presence of the bladder, ureters, and rectum, and by the size of the vagina itself. Then only such tumours can be removed as lie in contact with the vagina, so that they are within reach of the finger, and have a pedicle which is accessible by the finger. The vaginal operation should not be performed for tumours liable to rupture, nor when there is ascites, nor in cases of doubtful diagnosis. Myomata up to the size of a child's head, can, by "morcellement," be removed by the vagina. A unilocular ovarian tumour of any size can be removed by the vaginal operation; but as it is impossible to be certain before operation that an ovarian tumour is unilocular, the abdominal operation has to be chosen. In case of malformations, abdominal operation should be done, because the condition present cannot be ascertained from the vagina. In every stage of ectopic pregnancy in which the gestation sac does not reach above the navel, whether there be a living ovum, a tubal abortion, or a ruptured tube, the vaginal operation triumphs. Landau cannot advocate the removal of inflamed appendages, either on one or both sides, by the vaginal method. Even if successful most cases are not benefited. [This applies also to removal by laparotomy.] The bladder and ureters are endangered. Vessels may be torn, and their ligature may be impossible. Many surgeons have begun to do this operation, and been obliged to proceed to complete extirpation of the uterus and its appendages in order to stop bleeding.

In the "Year-Books" for 1896 and 1897, I have quoted reports of the results of the removal of the uterus and its appendages in cases of bilateral disease of the latter organs. I still think that for incurable double salpingo-oöphoritis this operation is the best treatment. I quote now some later statistics.

4. The removal of the uterus and its appendages for severe chronic disease of the tubes and ovaries.

Buschbeck has collected the results of this operation obtained in the Dresden Clinic. The number of cases amounts to sixty-seven. The first twelve of these occurred in the years 1885-91 inclusive; the remaining fifty-five between 1892 and 1897. This operation has not been in Dresden the routine treatment for inflamed uterine appendages. Many have been successfully treated by long-continued palliative, or rather, expectant treatment. Unilateral cases have been treated by the removal of the diseased parts by abdominal section, the uterus and the healthy appendages on the opposite side being left behind. The vaginal removal of the internal genitalia has been thought to be indicated only in cases of severe, chronic, bilateral, suppurated or non-suppurated disease of the uterine adnexa. Judgment has been a little influenced by the social position of the patient; poor women needing to be made capable of earning their living within as short a time as possible.

The results are the following: Out of the sixty-seven cases there was only one death, a mortality of 1·5 per cent. Two others have died since the operation. This leaves sixty-four for inquiry as to the permanent effects of the operation. From sixteen no reply could be got. Of the remaining forty-eight, thirty-eight came personally for examination, and ten replied by letter. Of the forty-eight, thirty were free from all trouble. Of the eighteen who still had some complaint, in thirteen it was not enough to prevent them from doing their daily work, so that forty-three out of forty-eight, or 89·5 per cent. were made able to get their living. The eighteen in whom more or less trouble persisted comprised one who suffered from renal colic, and in whom Buschbeck therefore thinks the operation had better not have been done, as the pelvic disease was not the main source of suffering; and four who suffered from manifold severe nervous symptoms, which continued after as before the operation. Buschbeck concludes that in cases in which such symptoms are present, the indications for the operation should be more restricted than heretofore. There were five in which pelvic symptoms present before the operation were not completely removed by it, although they were very much lessened. Lastly, there were eight who

complained of menstrual molimina not present before the operation, and therefore, presumably, set up by it. But none of these last were prevented from working by the molimina, and they all said that these symptoms were not to be compared with the suffering they had been accustomed to have before and during menstruation, and that, moreover, they were diminishing. After ill-consequences due to accidents of the operation—such as fistulas, pelvic exudations—occurred in no case. The operation had no detrimental effect upon sexual feeling, for this was in most cases annulled by the disease.

In the foregoing pages the suitability of the vaginal and abdominal operation for cases of pelvic inflammation has been discussed. I quote now some opinions as to the main advantages and disadvantages of the vaginal road to the peritoneal cavity.

5. An estimate of colpotomy.

At the International Medical Congress held at Moscow in 1897, the subject of anterior colpotomy was discussed, and the general tenor of the speeches made was, in **Zweifel's** opinion, too eulogistic, and he said so. But his remarks were too briefly reported to express his views properly, and he has therefore published an article containing a critical estimate of the value of colpotomy (*Cent. für Gyn.*, 1898, No. 16).

First, he says that if an ovarian cyst in size from that of a fist to that of a child's head, is removed by the vagina, recovery is so much smoother that the advantage of colpotomy over abdominal section is not to be denied. But it must in every case be remembered that the well-being of the patient depends far more upon the faultless performance of the operation than upon the kind of operation chosen. Hæmostasis is more difficult with colpotomy than with abdominal section, but, from the point of view of pain, colpotomy has the advantage. What he has said of small ovarian tumours applies also to fibroids not large enough to rise out of the pelvis, and to fixation of the retroverted uterus.

But anterior colpotomy has also been recommended for enlargements of the tubes. Now these are almost always inflammatory, and therefore without exception adherent. The result is, and here Zweifel quotes from **Baum**, whose words he endorses: "The operator touches, and toilsomely reaches after, what he wants to get hold of, and finally, if he has enough patience, he grasps it; but the wound is bruised in a way that it ought not to be; parts are torn that the operator would rather have protected, suppurated cavities are broken into, and

parts smeared with pus; vessels are opened, and the operator cannot see whence the bleeding comes. The latter is especially apt to happen if the infundibulo-pelvic ligament, which is shortened by inflammation, is too strongly pulled upon in order that it may be tied." Each successful colpotomy tempts the operator to further ones; but when there are firm adhesions even of small tumours, it is a difficult, delicate, and hazardous undertaking, and in such cases much more dangerous than abdominal section. Not only death, but hæmorrhage externally (through the vagina), hæmatomata, and pelvic inflammations follow it much more frequently than they do abdominal operations.

Posterior colpotomy has been practised, although not under that name, for many years. Zweifel has long ago opened pelvic hæmatoceles and abcesses by that route. It is possible to remove healthy ovaries in this way, but it is better done by anterior colpotomy. For ovarian cysts, fibroids, and tubal swellings it is not suitable.

The remaining method of vaginal treatment is the extirpation of the uterus. When there is uterine disease that cannot be otherwise cured, this is correct practice. In bilateral disease of the appendages caused by gonorrhœa, Zweifel admits that this indication is complied with. But there are operators who, when they see the anterior surface of the uterus, cannot leave it in the abdomen. It is a horrible thing that a woman should be deprived of her uterus because she has a retroflexion. When the Fallopian tubes are adherent and diseased on both sides, Zweifel regards it as an open question whether the vaginal or the abdominal operation is the better. For himself, he fails to see the advantages of the vaginal operation. He does not think the abdominal operation is attended with greater shock. The risk of ventral hernia he thinks is over-estimated. In a recent paper by **Abel**, its frequency after operations was estimated at 9 per cent. Zweifel thinks this is too high an estimate.

In the discussion on Zweifel's paper, **Sänger** spoke of colpotomy with even less favour than Zweifel. He said he had often had to consider whether he should undertake the removal of diseased parts from below or from above; and he had often thanked God that he had operated from above and not from below. He pointed out that there are limitations to the practicability of vaginal removal of diseased parts, which apply not to the abdominal operation. He endorsed all that had been said by Zweifel and Baum, as to the difficulties and disadvantages of removing inflamed tubes and ovaries by the vagina, even when this is possible. He

did not even admit, with Zweifel, the advantages of removing small ovarian tumours by the vagina; for ovarian tumours giving such trouble that they are discovered while yet small are often dermoids, in the removal of which unexpected difficulty is common. For the removal of fibroids, anterior colpotomy, combined with median incision of the uterus, after the manner of **Doyen**, is certainly of striking utility. But even here, the uterine tissue may be so lacerated, or made friable by contusion, that the closure of the wound may be impracticable, and hysterectomy may have to be performed.

6. Primary cancer of the Fallopian tube.

Hofbauer publishes a case of this rare disease; one which until the last few years was practically unknown (*Arch. für. Gyn.*, Bd. lv.). Hofbauer's patient complained that menstruation had been profuse for three years, and that for one year she had had copious leucorrhœa, pain in the lower abdomen, and wasting. Examination showed that the uterus was fixed, and that there were lumps on each side of and behind it, which could not be distinctly differentiated from it. There was also an ulcer with friable surface in the cervix. Complete extirpation of the uterus and its appendages by the vagina was performed. The parts were adherent. The tubes contained warty, dendritic, and mushroom-shaped friable growths. There was also cancer of the cervix. Microscopic examination showed that the growths in the tubes were "cylindro-epithelial"; in the cervix, squamous epithelioma. Hence Horbauer infers that the disease in the cervix and that in the tubes were not related to one another. This case is the fourth published in which both tubes were affected. Hofbauer thinks that his case supports the opinion of Sänger, that "primary cancer of the Fallopian tube only arises from a basis of chronic salpingitis, which generally has been or is purulent, and has lasted a very long time; and this mostly about the climacteric period."

I cannot follow Hofbauer in thinking that his case supports the theory that chronic salpingitis is the antecedent of cancer of the tubes. The clinical history seems to me explicable on the view that the new growth was the primary change, and the inflammation produced by it.

The after-history of the case is not given.

Roberts (*Obst. Trans.*, vol. xl., 1898) has published a case of primary cancer of the Fallopian tube. The history dated eleven months before operation, and was of repeated attacks of severe abdominal pain, followed by discharge, at first yellow, then watery, and of progressive wasting. "The uterus was displaced to the left by a hard irregular swelling occupying the right fornix, which