years of age, were regular, of fair quantity and slightly painful. The last two periods had differed however, the first being very scant and of short duration, while the last had been continuous during the four weeks previous to admission. She complained of severe pain in the lower part of the abdomen and of great weakness. An examination revealed blanched mucous membranes, great emaciation, a very frequent and small pulse and rapid respiration. A mass was found extending from the pelvis behind the uterus, upward about 7 cm. above the pubes, very sensitive to the touch and slightly fluctuating. The uterus was found to be slightly enlarged, fixed anteriorly and above its usual plane. The lower part of the mass was quite soft and encroached on the vagina.

September 24 vaginal puncture was made and two liters of solid and fluid blood with fetal membranes evacuated. Free irrigation of the cavity was done and as no bleeding was present, nothing further was deemed necessary. The left appendage was found very much enlarged and ragged, but was not disturbed but packed for a few days with iodoform gauze. Two weeks later she sat out of bed and was allowed to go home one week later, though the left tube was still enlarged.

Case 5.—Mrs.— had had four children and one abortion, but during the four years previous to this illness had not been pregnant. She had missed one period but did not consider herself pregnant, as no symptoms of her former pregnancies had been present and menstruation had not been regular. She had been working very hard one day arranging furniture, and was uncomfortable on going to bed. During the night she awakened with great pain in the pelvic region and felt very faint. Thinking she had worked too hard and that it was necessary to rest, she did not arise in the morning. Later in the day she felt cold and chilly and sent for the writer. I was absent from the city for the day and she did not call another physician, and did not send again for me until two days later. On Sept. 28, 1896, an examination revealed the uterus to be high in the pelvis and to the front; behind this in the cul de sac was a mass, that resembled a pus tube ready to rupture into the vagina. This sac was mistaken for a pus collection, and later in the day, with the assistance of her husband, she was chloroformed and the sac opened through the vagina. To my surprise no pus came away, but instead about eight ounces of fluid and coagulated blood. As the top of the sac seemed to be firm and the appendages could not be easily palpated, they were left undisturbed and the cavity emptied of clots and a material resembling early fetal membranes. The cavity was quite firmly packed, as there was a slight tendency to hemorrhage. The cavity was again emptied on the third day and lightly packed. She made a good recovery.

Case 6.—Mrs. H—, white, 27 years old, seen in consultation at Chevy Chase, Md., January 7, 1897, with Dr. E. A. Sellhausen. History: Married one year, menstruated regularly until November 15, when flow not appearing at time took a box of Chichester's pennyroyal pills, twenty in number, during three days, and on the 24th of that month began flowing profusely and with extreme pain. This was the first painful menstruation she had ever experienced. The pain was so severe that she collapsed, and it lasted all night and well into the next day. She remained in bed several days, suffering with vomiting and great exhaustion. At the time I saw her the pulse rate was but 96, and feeble, and the temperature 102. The uterus was slightly enlarged and pushed high to the left and front by a mass to the right that was slightly movable and fluctuating; it was rounded and, according to Dr. Sellhausen, gradually increasing in size. Its contents were thought to be blood from a ruptured tubal pregnancy, or pus. Advised operation, and as conveniences were not at hand it was thought best to move her to a hospital, which was done the next day, after her temperature was found to be 103 degrees. January 9 opened through vaginal wall into tumor and evacuated the cavity that extended across pelvic cavity. Still higher to the right was found a cyst about three inches in diameter that was thought to be an ovarian cyst and was evacuated as well. Irrigated with normal salt solution; after removing considerable debris that was thought to be fetal structures, packed with gauze. The pulse fell from 118 on the morning of the operation gradually to normal on the fourth day, and the temperature took a similar course from 103.5 degrees. She made an uneventful recovery and left the hospital within three weeks.

Conclusions.—In concluding we would urge:

1. That the vaginal route is preferable for operation for ruptured tubal pregnancy when the hemorrhage has ceased or is slow, the escaped blood limited to the pelvic excavation, and especially if a limiting diaphragm has formed above it.

2. That the vaginal route is freer from shock, is less liable to permit infection and furnishes better drainage.

3. That there is less liability to the removal of the adnexa than when the abdomen is opened.

4. That the period of convalescence is shorter and devoid of many of the usual complications of abdominal section.

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VAGINAL SECTION.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

BY LEWIS SCHOOLER, M.D.

DES MOINES, IOWA.

By the term section is meant an ample opening for the extraction of the fetal membrane, as well as the fetus itself, if present. To Recamier is awarded the priority, although unintentional on his part. He, no doubt being impressed with the teaching of the day with reference to a hemothecoele, which was, but a short time ago, the same as the teaching in regard to peritoneal and intraperitoneal affections. To see why this should have been so one has but to recall the unfavorable statistics with reference to many surgical affections. Lister had not then promulgated the advantages of asepsis and antisepsis. Bacteriology had not then become a science. In fact, the profession was far more ignorant regarding the causes of disaster than they are now.

The science of diagnosis of pelvic troubles was crude in the extreme. Crude for lack of accurate pathology; and while the strides toward accuracy in this respect have been great and rapid, the student of twenty years ago must often feel chagrin when he recalls how much of what he then called knowledge but now knows that it was not in reality useful knowledge, for the advancement of the age has forced him to discard it for the reason that all of our pathology was obtained from the dead subject. Today clinical observation with operations during all stages of inflammatory processes, from the earliest to the latest, has furnished the pathologist with an abundance of material and has also familiarized the operator with the microscopic aspect, which of itself is of untold value.

Two thousand years of empiricism and conservatism had accomplished little or nothing. Human suffering and surgical advancement demanded something more radical and more definite as well as more successful.

Working along these lines, in a variety of cases, principles were evolved that have completely revolutionized the practice of the older gynecologists. The gain to mankind in general and to womankind in particular can not be computed. That errors have been committed by ambitious and unqualified persons is apparent, and may have retarded scientific work in some quarters; in others it had but helped to emphasize the need of well-defined principles.

Most of us were taught that diagnosis of extra-uterine pregnancy was an impossibility and as there was no treatment the diagnosis was no great loss. Today we diagnose with remarkable accuracy, operate without fear and save the lives of many women. We have learned how to prevent sepsis and to control hemorrhage; we have learned that the evacuation of

clotted blood does not retard, but with proper precautions hastens recovery.

Having arrived at this point it would seem that the remainder of the distance to be traveled by the gynecologist was not beset with many difficulties. The route, however, divides right here, and what may be the proper course in one case may be decidedly dangerous in another. The infected and the uninfected, the complicated and the uncomplicated, each requires investigation. Two avenues are open, neither is safe, absolutely, as a routine. The advantages of the vaginal route are to be found in the cases where pus abounds, and where contamination of the abdominal viscera would most certainly occur were the collection attacked by that route. The pus is easily evacuated without the risk of shock, hemorrhage or contamination, and with the minimum of mutilation. Danger of infection from irrigation or mopping is not even a possibility. Breaking up of adhesions, causing bleeding, necessitating clamps or ligatures, is greatly lessened, as in the great majority of cases no foreign body is left in the wound except temporarily. In well-marked uninfected collections, with the membranes adhering to the ruptured tube, it is also possible to remove them with little or no trouble by this method, and when so done the operation, even here, possesses advantages, although it is in these cases that the abdominal method is frequently to be preferred for the reason that when the abdomen is opened the placenta may be safely removed and the hemorrhage controlled. The ligation of all bleeding vessels is done under the guidance of the eye. The operation is short and should not be followed by shock or secondary hemorrhage. The latter is an accident which sometimes occurs after the vaginal operation, requiring a laparotomy at a later date, as happened in one of my own cases. Circumstances of this kind have induced operators to recommend and to practice being prepared to make a laparotomy in the same case where the vaginal method fails or is unsatisfactory. It may be said, however, that where the vaginal wall is incised and irrigation and drainage used nothing is sacrificed by the operator. That the generative function is unimpaired, save in so far as it is interfered with by the cause which requires surgical interference; whereas by the abdominal method laceration and ligation may necessarily cause the sacrifice of an ovary or a tube.

Adhesions of intestines to uterus, tube or ovary may be greatly enhanced, while by the vaginal method it would not be at all influenced, this being, in some cases, of inestimable value afterward. It is urged by some that hernias are equally as frequent in the vagina as in the abdomen. This I do not believe; though it would not be strange should it occur oftener than it does. Healing by first intention and accurate approximation of incised tissue are not to be thought of in the vagina. Healing by second intention is alone expected and is often delayed and hindered in order to be sure that all the cavity is drained and obliterated, while in the abdomen in all properly selected cases the edges of the wound are carefully approximated and closed without drainage. The peritoneum and the different layers of tissue may be sutured separately, if deemed of advantage, though to my mind it is far from being essential. It is in these cases that we expect the greatest strength in the wall after a section. Where infection already exists or accidentally occurs at time of operation or where drainage

is a necessity, a portion of the wound usually heals by second intention, just as does the wound in the vagina; and here my observation teaches me that the abdominal hernias exceed the vaginal. Ligatures themselves, when of silk, sometimes fail either of absorption or encystation and become a source of infection, locally causing abscesses and sinuses, necessitating an operation for their removal, an operation, too, no less formidable than the first and sometimes with greater danger of infection.

It is within the experience of every operator that the virulence of pus differs within the widest limits governed by age and the character of the germ. Few are there who have not opened the abdomen and found pus in abundance, which after its removal seemed to leave no deleterious effect behind, while *vice versa*, a small or recent collection was possessed of such virulence that no amount of asepsis, by irrigation or otherwise, seemed to lessen its force in the least. Could we determine this in advance it would in many instances be the governing factor in not only the cases we are now considering but with many others with which we have to deal.

The strongest objections urged against the vaginal operation are that it is not a definite operation, that damaged tissue is necessarily left behind and that bleeding vessels are unseen and may produce disastrous results, that the conception does not take place in the tube and that the product is not always found between the folds of the broad ligament, and when found free in the abdominal cavity may even glide beyond the reach of the operator, or if within reach is found to have reached too great development to permit extraction through so limited an opening.

Again, it is claimed in pus cases (and it is certainly admissible to consider them here, as pus sometimes present is a complication and again through mistakes in diagnosis, is found to be the identical condition with which we have to deal), that a cure is not effected and that abdominal section is at last the only source of relief. This is claimed to be the observation of many able operators of large experience.

In other cases it is claimed that a small amount of relief is obtained and the woman suffers on in silence rather than undergo another operation, while the operator classes the cases among the cured. How much of this is true is difficult to estimate. That in some cases palliation is the only result is doubtless true. The same may, however, be said of abdominal operation, not only when performed for this but for many other afflictions. While the more radical operation has the advantage, so far as definiteness is concerned, it is too radical sometimes. Important organs are too frequently sacrificed. The swing of the pendulum is already more conservative and the assertion that it is cowardice instead of advancement will have to be supported by argument and by facts capable of demonstration before the position taken by able and experienced gynecologists will be yielded. Since human happiness is the end sought by all it behooves us all to lay aside all prejudice and carefully record our observations only after a sufficient length of time has elapsed to insure their reliability. Preconceived theories are of no value unless supported by facts, and beliefs are of no value unless they are capable of demonstration.

If after the lapse of time the vaginal operation for extra-uterine pregnancy is found to relieve a large percentage of cases, with safety and dispatch, it will

take its place as a legitimate life-saving operation. If not it deserves no better fate than to be forgotten by gynecologists, and the sooner the better.

Byford has recently reported 162 cases of vaginal section with only five deaths, and three of these cases should not have been operated upon by this method.

DISCUSSION ON THE PAPERS OF DRS. PRICE, BOVÉE AND SCHOOLER.

Dr. J. HENRY CARSTENS of Detroit—These papers cover the ground of extra-uterine pregnancy pretty thoroughly, although Dr. Bovée and Dr. Price do not seem to agree. I think they are really both right. I would not like to say that we should do one operation always. Dr. Schooler and Dr. Bovée admit that when we have acute cases with active hemorrhage, the best thing to do is to open the abdomen, ligate the artery and then we have no trouble. When we have a case like Dr. Bovée speaks of, where the active symptoms have ceased, where the tube has dropped down, has become firmly adherent everywhere, it is reasonable that we should puncture the cul-de-sac, let out the blood and allow the placenta to gradually dissolve and come away with the discharges without much shock or danger to the woman. That is my method of practice. I wish to most emphatically dissent from the doctrine advanced by Dr. Price, that in case of extra-uterine pregnancy which has advanced to the fourth or fifth month, we should not take away the placenta at once. I hold that this is very dangerous and serious and very bad practice. If we have a case of pregnancy only three months advanced, we can shell out the whole thing without trouble, ligate the pedicle and close up the abdomen. When we have a six months' pregnancy with a large sac adherent to the left side of the diaphragm, the hemorrhage we get in such cases is frightful, and the woman is in great danger, in the hands of an ordinary man at least. She would not perhaps be in such danger in a hospital in the hands of Dr. Price, where he has all the facilities, but in the hands of a less experienced man and in a private house, it is dangerous practice, and it has been so proven over and over again. If the records of cases of this kind where men attempted to do too much could be collected, we should find that the mortality is frightful. I know of a number of cases that have not been placed on record. We hear only of the cases that recover. It is better practice in my judgment in cases of extra-uterine pregnancy at the sixth or seventh month to simply open up the sac, take out the fetus, stitch the sac to the external abdominal wall and let the placenta dissolve. If it is done aseptically you will have no trouble. This is the best practice for the average general practitioner who has to do this operation in emergency cases. In exceptional cases the experienced surgeon may safely take out the sac.

Dr. L. H. DUNNING of Indianapolis—In reference to ectopic gestation, I am very much of the opinion expressed by Dr. Carstens, that there is a great deal of truth in the statements of those gentlemen who oppose each other in their methods. Yesterday I stated that it was my privilege to see two old cases which ruptured early, and I saw them four or five weeks after rupture. The history was clear, yet months had elapsed since rupture had taken place. A large hematocoele had opened through the vagina, and the patient made an excellent recovery.

I want to say a word here relative to the experience of Dr. Price regarding broad ligament pregnancy. I believe he has made the statement that he has never encountered a case of broad ligament pregnancy, and that he disbelieves in the existence of this form of pregnancy. I do not believe that he wishes to convey such an idea, and yet we should have this thought in our minds in dealing with every case at full term. Here are two cases which demonstrate beyond peradventure, that broad ligament pregnancies do occur. In the first case, because the picture of dissections made from the frozen subject shows the placenta was attached beneath the abdominal walls between the muscular coat and peritoneal coat. I have myself encountered one case which I operated on two and a half months after labor and enucleated the fetus and sac without rupture, the same as we would enucleate an intraligamentous cyst retroperitoneally. The placental attachment was in the tube. It was three quarters of an inch thick, distinctly separated from the broad ligament covering and might have been removed without trouble. As it was we enucleated the fetus and sac without hemorrhage two and a half months after labor. The only point I contend for is that we must recognize the fact that there is such a thing as broad ligament pregnancy.

STUDIES IN GYNECOLOGY FROM THE SERVICE OF THE WOMAN'S HOSPITAL OF PHILADELPHIA.

Presented to the Section on Obstetrics and Diseases of Women, at the
Forty-eighth Annual Meeting of the American Medical Association,
at Philadelphia, Pa., June 1-4, 1897.

BY ANNA M. FULLERTON, M.D.

PHILADELPHIA, PA.

My paper does not pretend to be a contribution to the most interesting and valuable subject of surgical gynecology but rather a plea for what may be termed preventive gynecology, to which perhaps we have given too little heed in the past.

Not that I would in any way decry the brilliant and skilful results attained by surgical gynecology in this day, for it is too true that diseased conditions affecting the pelvic viscera very frequently result in the production of organic lesions which induce chronic invalidism and render the functional activity of the generative organs a menace to the health and even the life of the patient. Too often, however, the operator himself realizes that in the removal of diseased pelvic organs he is but cutting away, as it were, dead twigs and branches from a plant which has a worm at the root. It is not a matter of surprise, therefore, that when the same social conditions must continue which have originally caused disease, a speedy recurrence is found of the manifestations of ill health. It has not been uncommon in my experience, after having removed pus tubes for a patient, to have her return suffering from an acute attack of gonorrheal cystitis, endometritis or vaginitis. To insure against the recurrence of an endometritis, at least, it is always best I believe in such cases to amputate the uterus at the same time that the appendages are removed.

Practically, the performance of these very radical operations upon the pelvic organs unfit a patient for the marital life, and since two-thirds of all patients operated on for pelvic diseases are women who are or have been married, the decision as to the absolute necessity for any operative procedure is one requiring a very careful judgment.

So largely is the health of a woman affected by her emotions that any cause for unhappiness induced by the changed conditions of her life may seem to make her last state worse than the first. For these reasons it is my ardent hope that we may look in the future to the fuller development of the constructive processes of our art, the making of healthy women.

How rarely do we find in the special hospitals for the treatment of the diseases of women, any tolerance of the so-called palliative measures for the relief of the pelvic disease! Yet there is a time in the development of many of these when they are not beyond the pale of hope. There is no better vantage ground for a study of woman's needs than that afforded by such a hospital as that with which I have been connected for many years, the Woman's Hospital of Philadelphia, with its large obstetric and gynecologic service. Here opportunities for careful study may be obtained, the constitutions and habits of life of patients observed and such investigations made as to cause and effect in the production of disease as can not fail to bring much enlightenment.

In reviewing the records of the Woman's Hospital of Philadelphia, during the time of my incumbency as its physician in charge, from September, 1886 to September, 1896, I found that among nearly forty