TRANSACTIONS OF THE ALUMNI SOCIETY OF THE LYING-IN HOSPITAL.

Regular Meeting held December 10, 1912.
The President, Dr. John H. Telfair, in the chair.
The paper of the evening was as follows:

THE CURABILITY OF CANCER AND THE NEED OF EDUCATING LAY PEOPLE AND DOCTORS IN THE NECESSITY OF EARLY RECOGNITION.

By LE ROY BROUN, M.D.,
Surgeon to the Woman's Hospital of New York.

The glands in the region of an early cancer of the uterus are not usually involved in the cancerous invasion so long as the disease is confined to the cervix.

Cullen[1] was the first to bring this out in 1900 by showing that in operable cases only a small part were accompanied by metastases of the regional glands.

Winter[2] found a similar absence of involvment of the glands in 42 out of 44 autopsies on patients in whom the cancer was confined to the uterus.

Shauta[3] in 60 autopsies on patients dying with cancer of the uterus, 40 of whom died from exhaustion, having had no operation, found that 26 showed no involvment of the pelvic or aorta glands.

Wertheim[4] in the splendid monograph, in which he discusses the results of the extended abdominal operation in 500 cases of cancer of the uterus, while adhering to his principle of removing all enlarged pelvic glands, states however that there were 41 such cases in the 500 operations; and of these cases of gland involvment only 5 passed to the 5th year limit of freedom from recurrence.

Surgeons are almost universally in accord that in the large majority of cases the extension of the process in the early or operable stages is by continuity into the surrounding tissue, and that our hopes of curing our patients is in the wide extent of removal of this tissue in the vicinity of the involved part.

In the early operations of slightly over fifteen years past the removal of the uterus by the vagina, or a high excision in early cases, either by the knife or cautery, was all that could be done. The nearness of the ureters prevented active excision wide of the diseased area. Every operator knows that in recurrences following such operations the secondary invasion is first seen in the line of incision in the vault of the vagina, the carcinomatous process was not primarily removed during the operation.

PLATE I.
Broun; Uterine Cancer.

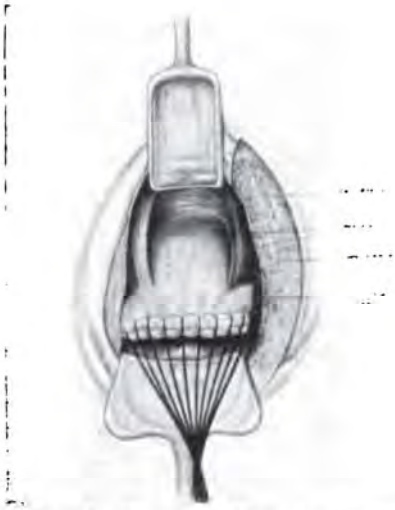

FIG. I. (Shauta) The circular incision of the vagina has been made fully one inch below the cancerous invasion. The vaginal cuff has been separated to the cervico-vaginal junction and has been stitched together with strong silk sutures left long for the purpose of traction. The bladder has been separated for a part of the way and the pillars of the bladder show prominently. The perineo-vaginal incision has been made on the left extending from the circular incision of the vagina laterally through the perineum to the point on the level with the anus.

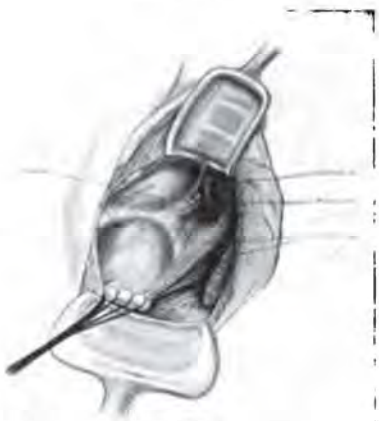

FIG. II (Shauta) The pillars of the bladder have been separated from the uterine side. The rectum has been separated. The ureter is exposed as it passes through the ureter slit in the base of the broad ligament. The uterine vessels above the ureter are exposed and surrounded by a ligature. The uterus being pulled well to the side gives an extensive exposure of the parametric tissue of the opposite side.

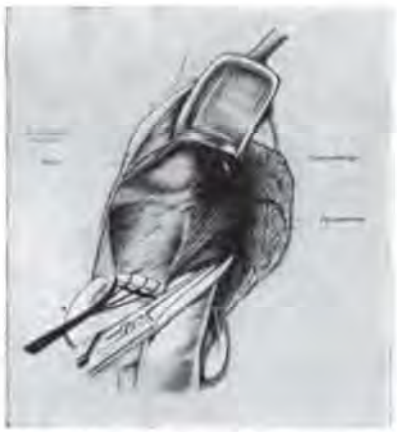

FIG. III (Shauta) The parametric tissue is being divided close to the side wall of the pelvis with the finger posterior and the retractor anterior as protections. The bleeding, which is venous, is subsequently checked by gauze, temporarily placed.

FIG. IV (Shauta) The uterus with the wide portion of parametric tissue of both sides has been removed. The tubes and ovaries have not been removed, being tied off. These stumps have been brought down between the edges of the peritoneum and fixed in this position. Sutures have been passed preparatory to closing the peritoneum.

The limitation of the operability of a patient for the early simple hysterectomy was that not only must the growth be confined to the cervix but also that the uterus must be free, and that the bases of the broad ligaments must show no infiltration. Under such favorable conditions from 10% to 20% of those operated on were saved for useful lives.

The possibility of benefit from the simple hysterectomy must be confined to the very few in whom the involvement is discovered in its incipiency, and it is in such very early conditions that I feel that the operation should be favorably considered even in the light of our present knowledge. It has a minimum death rate of 2 to 5% ; the recovery is even; the complications nil; and the chances of a cure are fair. I believe that such a choice would be justified as against more the extended operation, which though carrying with it a greater possibility of a cure, yet also bears a higher immediate mortality and a recovery with possibilities of complications and disagreeable sequellæ.

Schuchardt, recognizing the futility of operations on cases with involved broad ligaments by the accepted methods of the day, developed and laid before the profession, in 1893, the technique of the extended vaginal operation, in which the ureters are isolated, pushed out of the way, and the uterus is removed with a wide attached cuff of the vagina (1/3), together with a wide extent of the parametrium.

Shauta, two years later, modified this by making the perineovaginal incision as a latter step in the operation, instead of at the beginning as laid down by Schuchardt. With this modification Shauta has pushed the extended vaginal operation well forward, and reports in the year past[5] (1911) 445 operations for the 10 previous years with a total mortality of 8.9%, which he states has been reduced within the last three years to 3.7%. Of this number 211 had been operated on for 5 years; 73 or 39.7% showed no recurrence after this interval.

By exposing and pushing aside the ureter in this technique a far wider field of removal is possible and the number of patients who can be given the benefit of an operation is greatly increased.

He divides, in one of his statistical tables, the operations on 162 patients into three classes; those showing no involvment of the bases of the broad ligaments; those in which the bases of one or both broad ligaments were involved and lastly those in which the cancerous process was so far extended that it was doubtful if any operation could be of benefit.

In the first class of cases, there were 42 to which by the old measure of operability the simple vaginal hysterectomy would have been applicable. Under the last two classes no operation under our former estimate would have been feasible. Of these 83 belonged to the second class and 37 to that in which any operation was questionable on account of the extent of invasion.

It will be seen that by the extended vaginal operation 120 patients

out of 162 were given the benefit of surgery with a reasonable chance of a permanent cure, which would have been denied them under the limitations necessary for ordinary vaginal hysterectomy.

While Shauta and his adherents were perfecting their technique by the vaginal route, the majority of operators were doing similar work through the abdomen. Clark and Ries, of America, independently of each other, suggested in 1895, the extended abdominal operation which involved not only the extirpation of the uterus with a large portion of the parametric tissue together with a third of the vagina, but also a removal of all vaginal glands possible in the pelvis.

This operation carried with it such high mortality (30%) that few surgeons in America would adopt it and even at present, though the mortality has been reduced to 8% to 15%, the collection of statistics in 1912[6] gave hardly more than 500 cases for America. Abroad, however, the temperament of the surgeon and the large clinical material under absolute control enabled them to bring the technique of the extended abdominal operation to the state of present perfection.

Wertheim, whose name is chiefly associated with the abdominal operation introduced the use of the vaginal clamp, by which the vaginal tube was completely closed before it is cut across in the last step in the removal of the uterus, and by so doing minimizing the possibility of sepsis which, prior to this suggestion was of frequent occurrence. He also introduced the use of the parametric clamp for use in removal of the parametric tissue and thereby preventing what at times is embarrassing venous bleeding.

An incomplete list of the radical operations done by foreign surgeons was collected by Jacobson in 1910. The number was 2647. While incomplete at that time it falls far short by fully an equal number for that of the present day.

To these surgeons we are indebted for our present knowledge of the life saving value of the wide extirpation of the uterus, whether by abdomen or by vagina. Weibel, the first assistant in Wertheim's clinic, on his recent visit to America during the late Surgical Congress in New York, presented the latest results from the clinic of his Chief as follows:

From 1898 to 1912, 1430 cases seen in clinic, 71 refused operation, 689 inoperable, 675 extended radical operation, 50% operability.

The mortality while 30% in the first 100 cases had been reduced in the last 174 consecutive cases to 9%.

The freedom from recurrence after 5 years is, including primary deaths 43%; excluding the primary deaths 53%.

It will be seen that through the extended operation by the abdomen or vagina, considerable tissue is removed beyond the uterus and by so doing the field of application of the operation is not only largely increased but the possibilities of a permanent cure is equally as much so.

The measure of value of any operation is to what extent it is curative

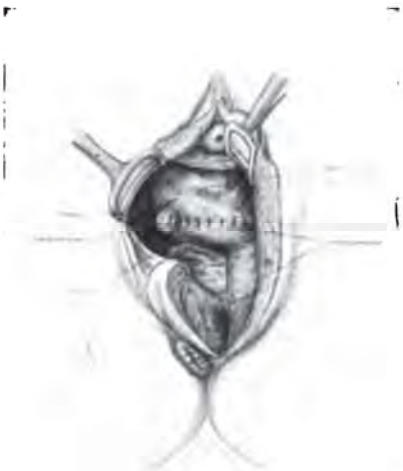

FIG. V (Shauta) The peritoneum has been closed. The tubal stump of one side is seen fixed extra-peritoneally. The vagino-perineal incision is well shown. This as a final step is closed by layer sutures. The raw surface is loosely packed with gauze, which is removed at the end of the eighth day.

FIG. VI (Wertheim) The infundibulo pelvic, and round ligament of one side have been tied and divided. The folds of the broad ligament have been separated and the ureter located.

FIG. VII (Wertheim) Along the ureter as a guide the finger is pushed under the uterine vessels. The vessels being isolated are tied off near their origin.

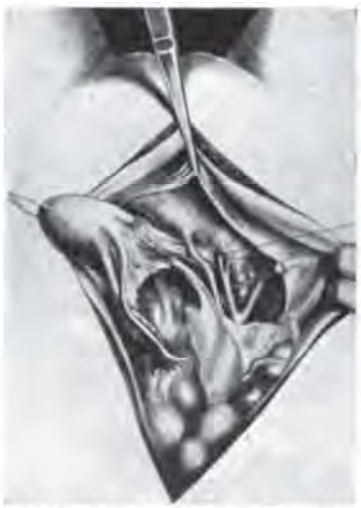

FIG. VIII (Wertheim) The uterine vessels being tied and divided, the ureter is layed bare to its vesical entrance. This at times is simple, at others the separation is difficult on account of the exudate.

FIG. IX (Wertheim) The utero-sacral ligaments are clamped off close to the rectum including all parametric tissue possible.

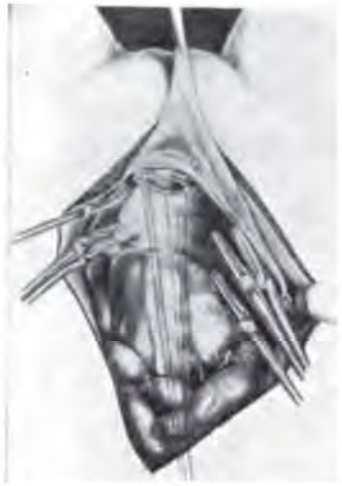

FIG. XI (Wertheim) The parametric tissue is divided close to the applied clamps. The vagina is now again cleaned out and cut across below the occluding clamps. The tissue within the bite if the clamps is tied off. Gauze is loosely packed in the raw cavity protruding from the vagina, care being exercised not to use sufficient to touch or press on the exposed ureters. The peritoneum is finally closed over, leaving the field of operation extra-peritoneal.

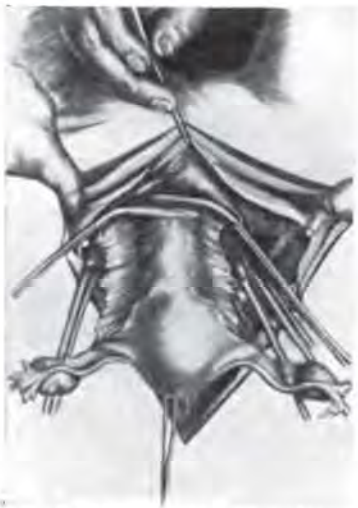

FIG. X (Wertheim) The utero-sacral ligaments have been divided. The rectum has been separated posteriorly and the bladder anteriorly. Both are pushed away from the vagina for fully an inch below the invasion of the cancer. After this separation strong upward traction is made on the uterus thus lifting up the surrounding parametric tissue. While in this position the parametric tissue is clamped off as close as possible to the side walls, the parametric clamps of Wertheim being of much value here. The vagina is now cleaned out prior to applying the occluding vaginal clamps fully one inch

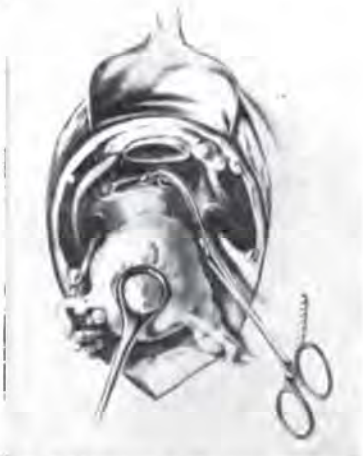

FIG. XII (Sigwart-Bumm) Theureters have been exposed and isolated to their vaginal entrance and the utero sacral ligaments tied off. The rectum and bladder separated fully one inch below the cancerous invasion. The special occluding vaginal clamp of Sigwart has been applied to the vagina. The vagina is cleaned and then cut across. By upward traction on the uterus the attached parametric tissue is pulled well up and made very accessible. Note the exposed ureters and the parametric tissue being pulled up between them and the uterus. In this stretched condition it is clamped ac

in *every* instance of the disease for which its removal is intended. Measuring the value of operations for cancer of the uterus by this criterion or establishing what is known as their absolute efficiency we have;

For the extended vaginal operation the statistics of Shauta giving, in 1911, the absolute curative efficiency of this method with cancer of the cervix as 16.1%.

Wertheim in his 1912 statement gives the absolute curative efficiency of his operations by the abdomen as 19.5%. The value of simple hysterectomy either by the vagina or abdomen is not so well established. It cannot be, however, over 8% to 10%.*

We have no other established means at the present time of treating cancer except by removal in a surgical manner. The small efficiency of this our sole hope is only 19.5% at the highest, for the reason that the largest number of cases presenting themselves are beyond the possibility of relief. If the ideal could be reached and all patients should seek trained operative assistance at the earliest advent of the symptoms, the absolute efficiency of surgery would reach at least the present freedom from recurrence for 5 years, which is in Wertheim's report 43%; and the operability fully 90%, there being a few cases giving no symptoms until beyond operative measures.

The average operability of patients applying in 9 of the large foreign clinics is 60%. In America, with the exception of the Johns Hopkins clinic claiming 60%, there is scarcely any other clinic that can give over 25%. The difference between the foreign and our clinics is due partly to education and partly to centralization.

The hope of the unfortunate patient is early diagnosis and early treatment and it is the duty of every surgeon to impress upon the entire physician body the absolute necessity of being keenly alive to the first symptoms of cancer, to insist on an examination and to insist on a properly trained man seeing all suspicious cases. This can only be done by constantly and frequently calling the physician's attention to this subject.

Our duty does not rest here but similar educative efforts should be directed to instructing nurses and midwives and druggists, all of whom frequently come more intimately in contact with patients who often talk to them of symptoms which they may hesitate or regard as too trival to bring to the notice of a physician.

To Winter we owe more than any one else the educative crusade that originated in Prussia and through his efforts has been attracting the attention of almost every country. I cannot do better than to quote a few extracts from his address before the German Central Committee for Cancer Investigation in March 1911.[7]

He states that despite great advances in medicine the prophylaxis is the most important feature, and to secure this we must have the cooperation of the public. This we have in done tuberculosis, syphilis and other in-

*Von Ott recently reports 15% absolute cure, in vaginal hysterectomy.

fectious diseases, through enlightenment of the people in avoiding infection. In cancer the problem is different. We do not seek to protect the healthy from contagion, but from the consequences of their own neglect. The necessity of enlightenment is a product of modern surgery. The highly unsatisfactory results even of the widest operations make it necessary first of all to secure for the public early diagnosis and early operation. We do not know how many years will elapse before we cease to cure cancer by operation but whatever the methods of the future—radiotherapy, chemical remedies or immune sera—we must still have early diagnosis and treatment. The enlightenment is therefore something permanently necessary.

The basic ideas as to enlightenment in respect to cancer are;

1. To cause the patients to seek medical advice at the earliest possible moment and to confirm in them the belief that only through the earliest possible medical treatment may their imperilled existence be maintained and

2. To educate all classes of people to whom patients are inclined to turn for advice, so that they may be able to recognize the disease at the earliest moment and to eliminate all advisers who have not the necessary expert knowledge.

Winter began his educative campaign in 1903 from Königsberg, Prussia, with the following plans:

1. To send to every physician a little pamphlet on early diagnosis.

2. By means of a leaflet sent to each midwife to induce the latter to refer all suspects to a physician.

3. To instruct the public by means of statements in the newspapers in regard to the early symptoms of cancer and to influence them to seek an expert adviser at the earliest opportunity.

The results of this campaign are graphically shown in the attached chart. (Fig. XIV) The first period, 1898 to 1902, shows the condition of affairs before any special action had been taken; the second, 1903, comprises the year that immediately followed the institution of the campaign; the third, 1905, gives the results of an investigation made two years later, to determine what lasting effects it had; and the fourth, 1910, shows the present status of the situation. The data were obtained from the records of the clinic and from the reports of specialists.

Curve I shows the effect upon the physicians, the criterion here being whether or not an internal examination had been made by the physician to whom the patient had applied for advice (it will be seen that even now this is true in only 91 per cent. of the cases); Curve II shows the action of the midwives, the percentage here being based on the criterion, whether or not a suspicious case applying to a midwife had been immediately referred to a physician. Curve III is an especially important one, as it shows the attitude of the patients themselves; it was obtained by

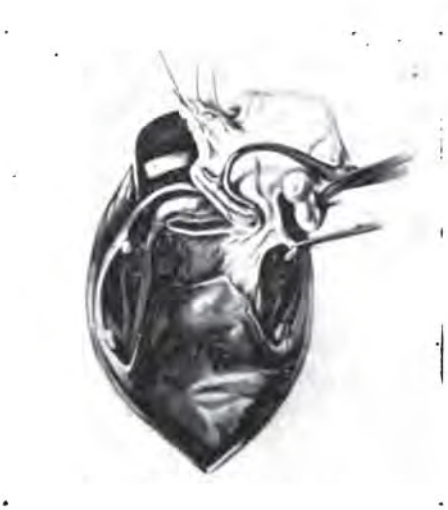

FIG. XIII (Sigwart-Bumm) The parametric tissue has been divided on one side and is shown well exposed on the other prior to being divided.

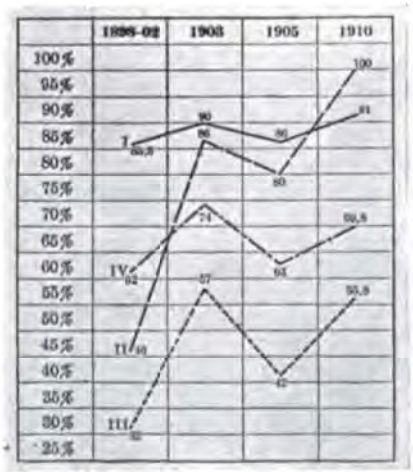

FIG. XIV. (Winter.)

reckoning the percentage of patients who had sought advice within three months after noticing the first symptoms. Curve IV gives the percentage of operability, and therefore represents, to a certain extent, the resultant of all the others.

The striking fact shown in this chart is the splendid manner in which the midwives have responded to the teaching given them and another in the general though moderate response of both patients and general physicians. The fall of the indicating lines in 1905 illustrates how quickly impressions are lost upon all of us unless the subject in hand is kept constantly before us, for at this time Winter might have been said to have " taken stock " after the active efforts of the period before. In America up to the present time no active steps have been taken by Societies as a body, though efforts have been made and committees appointed within the last few years. One of these committees has been instructed to report ways and means of undertaking such an educational crusade to the National Society for their consideration at its next meeting in Washington during the coming Spring. Much can be done in this educational line throughout the country when such an effort receives the endorsement of a Society of national recognition, and much also is to be done by every local medical society undertaking as a part of their duties the teaching of all in their own locality. By such efforts earnest and without thought of self many lives can be saved. For such an effort to be undertaken by individuals is impractical and far too great an undertaking. We in America shrink from appearing before the public as individuals in the light of such crusaders for fear of being misunderstood and our efforts being misconstrued. Societies, however, can do this and we as individual members of these Societies can do our part in our communities as the representatives.

For the purpose of showing plainly the steps of the modern operations, for removing as much as possible the parametric tissue surrounding the uterus, a series of lantern slides were shown of cuts taken from Wertheim, from Sigwart of Bumm's clinic and from Shauta.

References.

1. Cullen, T. S., " Cancer of the Uterus," 1900.

2. Winter, G., *Zeitschr. f. Geb. u. Gynäk.*, 1893, Bd. XXCII. p. 101.

3. Shauta, F., *Monatschr. f. Geb. u. Gynäk.*, 1904, Bd. XIX., H. 4., p. 475.

4. Wertheim, E., " Die erweiterte Abdominale Operation bei Carcinoma Colli Uteri." 1911.

5. Shauta, F., *Monatschr. f. Ger. u. Gynäk.*, 1911, Bd. XXXIII. p. 680.

6. *Transactions of American Gynecological Society*, Vol. XXXVII, 1912.

7. Winter, G., *Zeitschr. f. Krebsf.* 1911, Bd. X., p. 343.

Discussion on Dr. Broun's Paper.

Dr. Howard C. Taylor said:—So far as the operation is concerned there is little that I can add to what Dr. Broun has already shown so thoroughly in his pictures on the screen. The only thing that I would like to say, however, is that this is the most difficult operation one can deal with and there is certainly no other in the entire field of gynecology which compares with the Wertheim operation in difficulty. There is no question whatever that the Wertheim procedure includes the tissues as near the pelvic wall as possible and cuts out all that it is possible to remove.

A great many of us do what is called a Wertheim operation but it is not this procedure in the true sense of the word. It takes very great skill and experience to perform the same as it is done on the other side. Even there, where a larger experience favors the individual operator, the real Wertheim operation is not always done. In other words I mean to state that while foreign operators attempt to get out as much as possible of the pelvic tissue, they do not get out as much as we are led to believe by their articles and the pictures that were shown on the screen.

In order to do the vaginal work as performed by Shauta in his Clinic, I believe that there is no one whose material is sufficiently extended to permit him to become expert in this operation. I personally do not feel myself qualified to do the operation as it is done in the clinic referred to. Most of us here prefer the abdominal route in our work and do comparatively little vaginal operating. Our knowledge and skill are therefore much more limited.

It is an interesting fact that in Vienna where the two clinics are side by side, it will be found that in Shauta's Clinic as a general thing, carcinoma work will be done through the vagina and most other gynecological work through the abdomen, while in Wertheim's clinic the conditions are reversed, the carcinoma work being done through the abdomen and the other through the vagina.

This brings up another point which is different abroad than here at home. In Germany and Austria there are a relatively smaller number of men doing operations as compared with this country and consequently an individual operator has access to a very much larger material. Thus Wertheim in a period of ten or twelve years had something like 1400 cases of carcinoma, and no one of us here has come in contact with anything like that. In this country the same amount of work would be more scattered, which means that each one of us should follow his cases carefully in order to know thoroughly his own results and that we should publish them collectively as they would thus in the aggregate constitute a large number. We would then know what is being done here and what results are obtained.

The point on which I desire to speak particularly is not of the operation, but of the necessity for early diagnosis. The probabilities are, based on very definite statistics from the Board of Health, that of all the

cases that die of carcinoma of the uterus, only one in five has the benefit of previous surgical interference in the nature of a hysterectomy. I do not believe that of those operated upon, one in five are operated at a time when there is any real hope in the mind of the operator of the possibility of a cure. In other words I do not believe that in this country we operate on five per cent of our cases at a time where there is any chance of curing the patients.

A year ago in attempting to tabulate statistics for the American Gynecological Society, I sent out a large number of letters to medical men in this and other states. One man who had had wide experience said that he had never seen a case of carcinoma of the cervix which he considered operable. It is certain that we all believe and know that the number of cases of carcinoma of the cervix which we see at a time when there is any real chance of a cure by operation, is very small. It seems to me that in this country it is not so much a question of the operation as it is of the stage of the disease at which the patient comes under treatment. We must educate the medical profession and the people at large. I do not mean to say by this that we consider it necessary to teach men who have graduated from a medical school the early symptoms of carcinoma of the uterus, as every medical man can tell you what they are: the thing to do is to educate the medical profession to appreciate their responsibility in any given case which comes under their observation. We should make them understand the importance of irregular bleeding and discharge and the necessity of a thorough examination. Physicians know the symptoms but they do not appreciate that in the individual case these symptoms may mean the first evidences of carcinoma and that therefore the patient should be carefully examined. The great trouble with many men is that because relatively few cases are carcinoma, they do not give the patient the benefit of proper treatment. In other words, they take the chance that the case is not malignant rather than the trouble of insisting on an examination. Carcinoma of the uterus is different from carcinoma in other places, for it is possible here to make a positive diagnosis with comparatively little risk to the patient. If it is a carcinoma of the cervix then it is always possible for us to remove a small piece for microscopic examination, or if it is a question of the fundus being involved, we can by a curettage likewise sample the material for microscopic diagnosis. This can be done with very little risk. In other words we must make the medical man see that when there is any irregular bleeding, that it is his medical and moral responsibility to know whether that particular case is or is not carcinoma before it is dismissed. This is well illustrated by two patients which are at present under my observation. One woman was bleeding for a year before she was sent by her family physician to a man who was really able to make a proper diagnosis. This was not due to lack of knowledge of the symptoms because the question of carcinoma was in the doctor's mind, as

the patient had spoken to him about it. Had he known his responsibility was definite and had he subjected the patient to a curettage, then the patient would have come to operation at a far earlier stage and there would have been a better chance for a cure.

In another case the patient was the mother of an employe of a professor in one of our medical schools, who is well known for the good experimental work which he has done. This employe told him that her mother was bleeding and asked whether it was necessary for her to be examined immediately or whether they should wait until the end of the summer vacation. The professor told her to wait. Now that was not a lack of knowledge but merely lack of appreciation on the part of this man of the possibility of the presence of the condition of which I speak.

With regard to educating the people at large on the subject of cancer, I appreciate that there are two sides to this question. There is no doubt that as soon as we commence to talk cancer to women they will become frightened and it is possible that with some it may cause symptoms almost as difficult to treat as the carcinoma itself. That, however, does not deter me from believing that the wisest thing to do is to educate the women directly. As a matter of fact most women now fear cancer; they have it in their minds all the time and I believe it would be better for the majority of women if they knew more of the true facts about it. Most of them would be willing to submit to an examination at stated intervals if they could know the advantages to be gained by early recognition of the condition.

The question of the education of the women on the subject of carcinoma is along the lines that have been developed in a number of other medical subjects, such as the care of babies during the first few years, the question of milk, the prevention of typhoid fever, etc. This matter is entirely too extended for any individual person or society to undertake; it is really a national problem but I think if a beginning is made in the lay journals and among the public at large as to the importance and magnitude of the matter, funds will be forthcoming to carry it on in the same way as in the campaign against tuberculosis.

Personally I believe in the efficacy of the lay press to teach the symptoms of cancer of the uterus to women. In addition to this it seems to me that we should do certain things suggested by Dr. Broun in his paper. For instance I know of no reason why every nurse before she leaves the hospital should not have definite instructions as to the early symptoms of cancer and be impressed with the importance of the same, so that when a patient speaks to her about such symptoms she can tell her to go to a competent physician for examination.

As regards midwives, it must be born in mind that they are different here than abroad and I do not think we would get the results obtained by Winter, although I believe it might be worth while to instruct these women in regard to the symptoms of cancer of the uterus.

Another method of distributing information would be by lectures in women's clubs, or any other organizations made up of women of mature years.

In conclusion it seems to me that it is necessary to work along the lines indicated in order to obtain statistics that will compare with those developed abroad.

DR. HERMAN J. BOLDT said: As regards the extended abdominal operation for cancer of the uterus, to which the name of Wertheim has been given, because of this operator's very extensive writing on the subject, I may say that as I have often seen it done in this country, the procedure was simply an ordinary panhysterectomy. Notwithstanding the fact that the uterus had been isolated and the bladder pushed back, no parametrium had been excised.

It is a physical impossibility for any one to procure a better ultimate result from such an extended procedure than one could obtain from a vaginal hysterectomy twenty-five or thirty years ago.

In speaking of the question of operability, which is a very important one, I believe that it depends very much upon what one calls operability. The facts are these: A very large number of operable cases have been obtained by European surgeons not because the patients come to them for operation at an earlier period, but because they have extended the limits of operability. They do not consider that because the parametria are involved to some extent or because the bladder is already shown to be slightly involved, that the case is beyond the sphere of operability, but they include all cases under the operable class as long as there is a physical possibility of extirpating the carcinomatous uterus. The same operators who formerly had 50 to 60 per cent of operable cases have increased this number to 80 or 90 per cent but they say that although the patients and the extent of the disease are the same, they operate more extensively than before and have extended their limitations.

It is somewhat remarkable to me that Winters should have had a much better result from the promulgation of knowledge of cancer of the uterus to the laity, than has been experienced by others. The fact is, according to the information given to me, that the practical result has been that precisely the same percentage of patients come to them with carcinoma as before, so far as the actual disease is concerned, with this difference, namely, that the number of women who apply to them is larger, because a greater number of women with neurasthenic tendencies were made more nervous and a larger number who were not nervous before became nervous because of this diffusion of knowledge regarding the early symptoms of cancer.

With regard to the early symptoms of this disease, we must remember that it is very insidious in its onset and that there is no irregular bleeding until the new growth breaks down. Leucorrhea is usually the first symptom, but how many other women are suffering from this? There is of

course this distinguishing feature, namely that with the continuation of the breaking down of the new growth we have not an ordinary form of leucorrhea but an ichorous discharge. We must also bear in mind that it is not unusual because of the insidiousness of the disease that some women may not have marked symptoms until the disease has advanced so far that it is beyond the sphere of operability according to our former view of the limitations. In cases of cervical cancer, when the disease does not commence in the cervical mucous membrane but in the cervical tissue itself, the disease is often far advanced before the first symptom has manifested itself. I am inclined to believe that we are not going to reach our best results by instructing the laity through the public press with magazine articles. I believe it is wrong. My own idea is that we are going to attain very much better results by having the profession put into practice the points which they already know. Of course we must realize as the previous speaker has already said, that every physician knows what the early symptoms of cancer are, but how frequently do we, who treat this class of patients, have the women come to us and are then informed that thay have been treated for three or six months and even longer, by local procedures and douches. I am quite certain that the attending physician in such cases must have been aware that serious trouble was present. We must impress upon the profession the necessity of making a positive diagnosis when a suspicion of cancer exists, and we must be certain of our position in every case. I believe that we will then get the same percentage of patients for early operation before the disease has advanced too far, that is obtained abroad.

We must also remember that in addition to the operative procedures, we have non-operative methods which have given excellent results and it has been claimed that by the use of the X-rays inoperable cancer cases have been made operable. Bumm has recently reported a case which came to him for operation, but the disease had advanced too far; the cervix was movable and there was a broad callous on the parametrium extending backward to the pelvic wall. The patient was turned over to the X-ray department because of the inoperability of the growth. She received 800 Holzknecht units, equal to 1600 Knieboeck units, by means of deep radiation for a period of two months, daily or every other day. When examined subequently Bumm was astonished to find that the former condition of inoperability have become so much better that he was able to advise the patient to be operated upon. On opening the abdomen the carcinomatous growth was readily enucleated.

Now that shows that we have not been using the non-medical treatment, or rather the X-rays in a proper way, because I believe that the ordinary dose of the rays for carcinoma is usually stated to be limited to two and one-half Holzknecht units and that it should not be repeated more than about once a week. Here was an instance and those who know Bumm will not doubt the veracity of the statement, in which 800

Holzknecht units were used every day for a period of two months, which shows that there is a wide difference in opinion as to the dosage and that we have still a great deal to learn. With our present knowledge we can only say that thus far we have no positive cure for carcinoma except in the incipient stage, and then only by surgical intervention.

DR. JAMES W. MARKOE said: I desire to speak to you as an obstetrician, for you have heard mainly tonight from the gynecologist. It seems to me that there is no doubt whatever that carcinoma of the uterus develops in many cases from bad obstetrical care. I want to call your attention to the fact that among 85,000 cases treated at the Lying-In Hospital during the past year, a recent search has shown but ten instances of cancer of the uterus. In making this statement it must not be forgotten that most of our patients are young women usually under twenty-five.

As regards Dr. Broun's suggestion that the laity could be educated in the early symptoms of cancer by articles in the daily press, I am tempted to call your attention to the influence of the midwife in the cancer situation. The Lying-In Hospital was started primarily with the hope of eliminating this personage, the idea being that the midwife in her ignorance leaves torn perineæ and cervices, not to mention retained placentæ, all of which must undoubtedly be considered in the etiology of cancer. I have always felt that midwives should therefore have the same education as the very best doctor if the privilege is extended to them of treating women at this most important period in their lives. I cannot for a moment believe that any school of midwifery can be started in this city or elsewhere, which offers a course of training consisting of three months of lectures and attendance upon a limited number of cases of confinement. I am convinced that in the district which is covered by the service of this hospital, the midwife has been eliminated to some extent, and this will undoubtedly continue with the extension of our service.

I believe that the education of the laity in the cancer question must be conducted along the same lines that we have used in our attempts to eliminate the midwife, and that is by doing the very best work possible, and teaching our patients and our nurses as we meet them in practice, to observe carefully all evidences of abnormality as regards the generative tract. I believe, therefore, that the laity should not be educated in this matter through the public press, in which garbled accounts so often appear that the public will not give them sufficient attention. We must go about it in a different manner and obtain access to the people themselves. This means that each and every teacher must carefully instruct his students and medical men of the country must teach their patients how to observe the early symptoms of uterine cancer.

We ought to be grateful to Dr. Broun and the others who have agitated this subject and help them all we can to disseminate this knowledge among the people.

DR. LE ROY BROUN, in closing the discussion said: This entire subject is one that is of great interest not only to the specialist but also to the

general physician. The increase of operability abroad in the extended operation has developed with the knowledge that in all indurated broad ligaments (with a cancerous focus in the cervix), these exudative conditions are found at times to be due to the presence of streptococci which appear to be so prevalent in this disease, and are free from cancerous foci.

While the above is true, on the other hand even with free movable uteri without infiltration of the broad ligament, metastatic foci have been found in the connective tissue of the broad ligament.

I cannot quite agree with one of the speakers that exudates in the base of the bladder do not interfere with operation. While it is entirely possible that this exudate may not be cancerous, its presence, however, renders the operation specially hard and dangerous on account of the difficulty in separating the bladder from the uterus. Shauta seems to think that a cystoscopy of the bladder does not have much influence in determining the operability of a case. I do not think, however, that the majority of operators would agree with him in this matter.

The question of symptoms and the early diagnosis of cancer I have purposely left out of my paper, desiring that this should be taken up by those discussing the subject. There is one set of symptoms which has not, however, received the attention which I believe it should. Bleeding on touch and foul ichorous discharge are all classic and appear in every book. There must be, however, a condition preceding the one causing the breaking down of the bleeding mass. This earlier condition gives rise to profuse leucorrhea. The primary symptom is then leucorrhea and I am strongly of the opinion that every woman with extensive leucorrhea should be examined, not only by the finger but also with a speculum. To one experienced in such matters these conditions can be ordinarily differentiated, yet there are instances requiring section and microscopic examination, to determine the absence of or presence of cancer. In all extensive erosions I believe the best treatment is that of excision. Local treatment is frequently of no avail in such instances and we are driven to surgical removal. I see no reason why in these extensive conditions the excision should not be primarily done. By this means we not only give the patient the relief that she seeks but can also have the diagnosis of the removed portion carefully determined by microscopic examination.

With reference to the education of the public it may have been noticed that this part of the subject has been left out of my paper. I quoted the efforts of Winter but purposely did not bring up the subject of our own American public since I am not quite sure in what manner such information would be received. I did lay stress, however, and I believe that we should educate nurses and midwives and also teach druggists the importance of referring at once cases coming under their observation to physicians. It is of common knowledge that druggists are frequently spoken to of such matters by a certain class of patients.