POTTER VERSION. THE ELIMINATION OF THE SECOND STAGE OF LABOR. A REPORT OF 200 CASES*

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AT THE twenty-ninth meeting of the American Association of Obstetricians and Gynecologists, Dr. Irving W. Potter[1] reported 500 cases of internal podalic version, most of which were done for the sole purpose of shortening labor and to avoid suffering. The paper was very adversely criticized, and the Executive Committee considered the principles laid down by the essayist so dangerous that the paper was withheld from publication in the proceedings of the association. The next year Dr. Potter reported an additional 200 cases before the same association, making a total of 700. The discussion of the second paper was scarcely less favorable. There was no criticism of the results obtained. The attack centered in the sentiment that it was unwise to interfere in cases that would deliver themselves spontaneously; that, while Dr. Potter's results were good, the adoption of Dr. Potter's teachings would lead to untold harm.

In the 700 cases reported in the two papers, there was no maternal mortality or morbidity. In fact, the mothers seemed to be better off than the average mother. There were no more lacerations than ordinarily encountered. In the 200 cases of the second paper there were eighteen stillbirths.

The Potter version must be studied from several different angles. First, can others do it with the same ease and success as Dr. Potter? Second, the effect upon the mother; third, the immediate effect upon the child; fourth, the remote effect upon the child. In order to throw light upon some of these points, I have undertaken the present study. The technic that Potter describes and very willingly demonstrates is a very simple one; one that can be carried out either in a hospital or a home. In fact, a large number of his cases are delivered in homes. The first case that I saw him deliver was in the patient's kitchen. The patient was on the kitchen table with her feet resting in two chairs. An ordinary zinc wash tub was between the chairs. A bath towel extended from beneath the patient's buttocks to the tub. The few instruments that he uses, hemostats, scissors, outlet forceps, cord tape, and rubber catheters, were laid out on a sterile towel on the kitchen drain board. He uses an elbow length glove on the left hand and an ordinary rubber glove on the right hand. The patient was deeply under chloroform. A neighbor steadied the patient's knees. He

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lubricated the left hand with liquid soap and dilated the vagina thoroughly. More soap was poured into the birth canal, the palm of the hand acting as a trough to facilitate this. The membranes were stripped from the lower uterine segment. A towel or some convenient sterile cloth was wrapped about the forearm, and kept close against the vulva. The hand was introduced far enough into the uterus to grasp both feet. The purpose of the towel is very evident as soon as the bag of waters ruptures, which usually happens when the feet are grasped. The feet are brought down into the vulva, the version being assisted by the right hand on the mother's abdomen. After the legs are delivered, traction upon the anterior leg causes the back to rotate anteriorly. After a few moment's pause, gentle traction is made on the thighs until a scapula appears under the symphysis. It is sometimes necessary to rotate the body to effect this. Then, with a finger introduced under the pubic arch until it parallels the humerus, he delivers the anterior arm. In a similar manner he delivers the other arm. A finger of the left hand is then introduced into the child's mouth to preserve flexion of the hand, and the head is expressed by pressure on the fundus, just as one expresses the afterbirth. As soon as the face appears, he strokes the mucus out of the baby's throat. The head is then delivered very slowly. The child is laid across the mother's abdomen, and the cord is clamped and cut as soon as pulsation ceases. He gives an ampule of pituitrin immediately after the child is born and then expresses the afterbirth. What impressed me especially, was the ease and deliberateness with which Dr. Potter worked. The first case that I saw him do was a multipara, and he finished it within the classical eight minute period. Later, I saw him deliver a primipara. When he brought out the feet a loop of cord came along with them. I asked him if it were pulsating. There was absolutely no pulsation. He seemed not to worry about this, and was even more deliberate than usual when he saw me timing him. Fifteen minutes elapsed before he delivered the head, and the child breathed spontaneously three minutes later. Dr. Potter in his paper, emphasizes the importance of complete anesthesia. Dr. Reynolds gives the anesthesia in all of his cases both in the home and in the four hospitals in which he works. After having some experience with various kinds of anesthetists, I can see the importance of such an arrangement.

In the cases that I am reporting at this time, we have followed as nearly as possible Dr. Potter's technic with the exception of the routine use of pituitrin. It appeared to me unwise to use anything to cause contraction until the afterbirth had been delivered. Then too, I wanted to see whether versions predisposed to postpartum hemorrhage. In the first cases of our series we followed our usual routine of giving one dram of the fluid extract of ergot as soon as the woman recovered from the anesthesia enough to swallow. Our cases under this procedure

differed in no way from any others that were deeply anesthetized. We then adopted as a means of saving time, the routine of giving a hypodermic of ergotol or pituitrin immediately after the explusion of the placenta.

In order to answer in a measure the criticism that the procedure described by Dr. Potter requires exceptional skill, I have included in this report the cases delivered by myself, by my associate Dr. Carter, and by the fourth year medical students under my direction. Thirty-three cases were delivered at the Spring Street Home for Girls, eighty one were private cases, delivered by myself and eighteen private cases delivered by Dr. Carter, twenty-three were cases delivered in consultation, and forty-five were students' cases.

There were three maternal deaths, one from postpartum eclampsia, one an ether death, and the third from influenza. The first death was that of a white woman, delivered in the out-patient service. She was seen the previous week at the dispensary, where it was noted that she had a funnel pelvis. No urine examination was made. When the students called me, the head had been on the perineum for two hours and she was having almost constant pains. The head was so soft and boggy that both the students and I made a diagnosis of breech presentation by rectal examination, and only after a vaginal examination did we discover our error. The fetal heart could just be heard. It was decided not to lose time necessary to send back to the hospital for forceps, but to deliver the patient by version. This was accordingly done under chloroform anesthesia. It was difficult to get the patient relaxed enough to get the head about the contraction ring, but after this was done the version and extraction was easy. The patient was left at the end of an hour in good condition, except that her blood pressure was 150 systolic, 90 diastolic. Two hours later, the visiting nurse reported that the patient had just had a convulsion. An ambulance was sent to take her to the Virginia Hospital. There was some misunderstanding, and when the ambulance arrived the patient's condition was so good that the ambulance surgeon considered it a call to a normal case, and left the patient in her home. Her convulsions increased in frequency and the patient became comatose. Finally after being unattended for eight hours from the first convulsion, she was taken to the hospital where she died the next day.

The second death was also in the student service. The patient was anesthetized by a hospital interne who had given a large number of anesthetics. I had just made an internal examination and was intent upon directing the student in his search for the baby's feet, when I noticed that the patient was extremely blue and entirely pulseless. Artificial respiration was given for three hours together with hypodermics of caffeine and strychnine. The patient's color became a

bright pink, and several times it looked as though she would recover, but there was never any palpable pulsation.

The third death was a private case who died early in January. She developed postpartum, a cough, high temperature with a few râles, nose bleed, and a leucocyte count of 13,000. Two other cases had pneumonia postpartum. One case developed malaria after delivery, and the plasmodium was found in the blood. Two of my cases showed evidences of profound shock. The first of these was an elderly woman, who had a hemorrhage from the genital tract several days before she went into labor. Her pains were slow and irregular. After she had been in labor a number of hours, I completed manually the dilatation of an almost dilated cervix, and delivered the child. In spite of ergotol and massage of the uterus, she continued to flow rather freely. The cervix was inspected, and found intact. The uterus was packed with iodoform gauze. This controlled the hemorrhage, but not before her blood pressure had dropped to 60 and her pulse had gone to 120, and the patient was complaining that she was unable to get her breath. The patient was given hypodermoclysis and the foot of the bed elevated, and in four or five hours, she seemed to be in good condition. The mother made an uneventful recovery and she and the baby left the hospital in excellent condition at the end of the usual two weeks. This was probably a case of abruptio placentæ with antepartum bleeding and a tendency to relaxation of the uterus after delivery.

The second case was seen in consultation with Dr. Blanton. She also was an elderly multipara. She had albumin and casts in her urine and a systolic blood pressure that averaged about 220 mm. of Hg. By careful treatment she was carried to term. The onset of labor was marked by a severe hemorrhage, followed by a second one several hours later. When I first saw the patient she had lost enough blood to reduce her blood pressure to 180. The cervix admitted three fingers and was almost completely covered over by placenta. Under light chloroform anesthesia, the dilatation was completed manually, and a very easy version and extraction done. The afterbirth was delivered with no difficulty, and was intact. Within thirty minutes, the patient began to feel faint and in a very short while was pulseless. She was given 300 c.c. of saline with one c.c. of adrenalin solution intravenously, and by the time the infusion was finished, had a good color and a systolic blood pressure of 125. This patient also made an uneventful recovery.

One case had infected sutures and ran a little fever for two days. Two cases had well-marked puerperal fever. Both of these had been attended by midwives before the students were called, and in one of them high forceps had been attempted by a colored physician after pituitrin had failed. Two of the cases, including the fatal one,

had eclampsia, and in six others labor was induced on account of intense toxemia. One case had an exophthalmic goiter. There were four cases of placenta previa, one of which was central. Otherwise, there were no maternal complications.

One can but be impressed with the results mechanically. Seven cases had second degree tears, and forty-six, tears of the skin and mucous membrane, in the cases that I have examined four or five weeks postpartum. I have been surprised at the remarkable integrity of the birth canal. In many of them the only indication that they have borne a child, is a slight laceration of the cervix. In one case I was unable to make a vaginal examination with two fingers. Never before have I come so near to discharging my patients in as good condition anatomically.

TABLE I

SHOWING RELATION OF PELVIS TO INFANT MORTALITY

	NORMAL PELVIS	FLAT CONTRACTED	FUNNEL	JUSTO-MINOR	KYPHOSIS (NOT CONTRACTED)	NOT STATED	TOTAL
Breathed spontaneously and lived at least 14 days	112	2	2	0	1	39	156
Resuscitation necessary, lived at least 14 days	9	0	0	0	0	4	13
Died in the first 14 days	8	0	2	0	0	3	13
Stillborn (not macerated)	9	2	0	0	0	5	16
Macerated	3	0	0	0	0	0	3
Total	141*	4	4	0	1	51	201*

*One case of normal pelvis counted twice on account of twins.

The absence of infection and the lessened frequency of injuries to maternal soft parts, excite more comment, and I might say doubt, than anything else in connection with the Potter version. Yet, when one considers the mechanics of the method, in the light of anatomy and pathology, it seems very rational. Potter emphasizes the importance of limiting the number of vaginal examinations. The gloved hand, thoroughly covered with liquid soap, which is germicidal, is introduced into the vagina, and the vagina flushed with green soap. The hand is now carried up into the uterus and into the amniotic sac. The baby is delivered promptly, and the sac in which you have been working, is cast off with a flow of blood that flushes out the entire birth canal. The whole process from the introduction of the hand to the scouring effected by the delivery of the afterbirth, lasts scarcely more than twenty minutes on an average. Compare this with the routine vaginal examination early in labor. In the first place the patient is not in so good a position to observe asepsis, neither is she usually as well prepared as when you have prepared her for delivery. The examining fingers are carried through the same canal

as the delivering hand, without, however, the help of the liquid soap. What bacteria are carried up from the vagina into the cervix, are left for hours, sometimes for days. They have ample time to multiply, to penetrate the fetal membranes and invade the fetal blood vessels,[2] as well as the uterine muscle and blood sinuses, and to become firmly intrenched before the cleansing action of the birth of the placenta occurs. Clinical evidence supports the contention that a single vaginal examination early in labor is more liable to cause infection than any amount of manipulation, short of injury to maternal tissue, at the time of or just before delivery.

As an explanation of the comparatively few and insignificant lacerations, I submit the following: First, the mother is deeply anesthetized, so that the perineal muscles are relaxed and flaccid. Secondly, the posture, a modified Walcher position, with the thighs as close together as possible, relaxes the perineal fascia, as has been shown by Baughman,[3] more than any other position. Third, the vagina is thoroughly stretched and lubricated. Fourth, the aftercoming head will go through a smaller space, as was shown by Sir James Y. Simpson[4] years ago, in discussing the relative merits of version and forceps in contracted pelves. He states that he has often delivered easily by version heads that he could not deliver by long forceps. Fifth, the obstetrician has better control over the advance of the head.

A reference to the appended table will show the relative number of white and colored women in this series, as well as their marital condition, age, the number of children and abortions they have had previously, the blood Wassermann reaction, the character of the pelvis, the position of the child, the duration of the three stages of labor, the method of separation of the placenta, the degree of laceration of the perineum, the condition of the child at birth, its weight in pounds and its length in centimeters, and the complications encountered. The youngest patient in the series was thirteen and the oldest 43. Five of the cases were forty or more years of age. The average age was 29.1 years. The average duration of labor was: first stage 15 hours and 25 minutes, second stage 33.5 minutes, and third stage 9.9 minutes. One hundred twelve patients were primiparæ. Thirty-four cases had aborted one or more times. There is a record of Wassermann reaction in one hundred thirty-one cases. The reaction was positive four times, and seemingly had little effect on the course of labor or the welfare of the child. I encountered a flat contracted pelvis four times and a funnel pelvis an equal number of times. One patient had a marked kyphosis. Of unusual presentations, there were eighteen breech, three shoulder, and one brow. It is surprising to note the number of times the placenta separated by Duncan's method. The method of separation was not noted in thirteen histories. In the re-

TABLE II

ANALYSIS OF CASES WITH SPECIAL REFERENCE TO NEONATAL MORTALITY

	No. of cases	Infant	Mortality
White	163	25	15.33%
Negroes	37	7	18.91%
Married	151	23	15.23%
Single	48	9	18.75%
Widowed	1	0	00
Parity, previous children 0	112	18	16.07%
" " " 1	36	7	
" " " 2	19	2	
" " " 3	10	2	
" " " 4	6	1	
" " " 5	4	0	15.11%
" " " 6	5	1	
" " " 7	2	0	
" " " 8	4	0	
not stated	2	1	
Previous abortions 0	158	22	13.92%
" 1	21	6	
" 2	10	3	
" 3	2	0	25.00%
" 4	2	0	
" 5	1	0	
not stated	6	1	
Blood Wassermann negative	127	20	15.74%
positive	4	1	25.00%
Pelvis, normal	140	19	13.57%
flat contracted	4*	2	50.00%
funnel	4	2	50.00%
kyphosis	1	0	
not stated	51	8	15.68%
Position, L. O. A.	90	12	13.33%
R. O. A.	25	3	12.00%
R. O. P	50	7	14.00%
L. O. P.	11	1	9.09%
occiput unspecified	2	0	
brow	1	0	
breech	18	3	16.66%
shoulder	3	3	100.00%
Separation of the placenta, Duncan	125	19	15.20%
Schultze	62	10	16.12%
Condition of the infant, breathed spontaneously	164	8	4.87%
resuscitated	18	6	33.33%
stillborn (not macerated)	16	16	
macerated	3	3	
premature	15	11	73.33%
postmature	14	10	71.42%
enlarged thymus	2	2	
heart disease	1	1	
hydrocephalus	1	1	

TABLE II—CONT'D

		No. of Cases	Infant Mortality	
Maternal complications,	tuberculosis	1	0	
	influenza and pneumonia	3	0	
	prolapsed cord	3	2	66.66%
	placenta previa	4	1	25.00%
	ablatio placentæ	1	0	
	post partum hemorrhage	1	0	
	puerperal fever	3	0	
	toxemia of pregnancy	4	1	25.00%
	eclampsia	2	0	

*Refused to go to the hospital.

maining 187 cases the separation was by the Duncan method in 125. This is probably due to two factors. Pressure on the fundus in delivering the head likely causes a partial separation of the afterbirth, and the anesthetic, by lessening the uterine contractions in the third stage, may interfere with the usual mechanism of separation of the placenta.

In order to judge the immediate effects upon the child, it is necessary to review the results obtained by other methods and in other clinics. DeLee in his textbook states that over 4 per cent of children died during birth, and quotes Schultze to the effect that 5 per cent of the children are stillborn and 1.5 per cent die very shortly after birth, the result of the trauma of labor. "A large percentage—how large it is impossible to say—is more or less injured, and this, too, in so-called normal delivery. Any one performing autopsies on newborn children will be struck by the frequency of hemorrhages, punctate and larger, in the brain, in the larger ganglia, along the sinuses and sutures. It is certain that such extravasations leave scars, perhaps minute, in the cerebral structures, which may explain some cerebral symptoms later in life." The investigation of the infant mortality of Brockton, Mass., a town chosen for its homogeneousness of population and better-than-average living conditions, by the National Children's Bureau,[5] shows that there were 3 per cent of stillbirths and a mortality of 96.7 per thousand of infants born alive, of which one-third was in the first week of life. Holt[6] states that 25 per cent of the infant mortality occurs in the first month, 11.09 per cent in the first week and 9.64 per cent in the first day. Alcohol, vice, syphilis, and some forms of inherited disease are factors of considerable importance, as well as malformations of heart, intestines and brain, and accidents of birth. Holt and Babbett[7] have studied the records of 10,000 deliveries in the Sloane Hospital for Women and give the following table:

Abortions (less than 37.5 cm. in length)	253
Stillbirths (over 37.5 cm. in length)	429
Living births	9318
Deaths in the first 14 days	291

In the Columbia Hospital[8] in Washington in 10,533 confinements there were 1339 fetal deaths. Coming closer home, we find that in 1918, the last year for which there is available a published report of the Health Department, there were in Richmond 3848 births, 236 stillbirths, and 181 deaths of infants in the first two weeks of life. In other words 6.1 per cent of the infants born in Richmond were stillborn and 4.7 per cent died in the first fourteen days. In the past three sessions there have been 887 deliveries in the out-patient service of the Medical College of Virginia. Of these, 101 resulted in stillbirths, and twenty babies died in the first ten days, a neonatal mortality of 13.6 per cent. The large fetal mortality is explained by the fact that the service is almost entirely among negroes. It is a well-known fact that the infant mortality in the colored race is excessive.

In the two hundred deliveries under consideration there were three sets of twins. In two of the twin cases only the second child was delivered by version. In other words, there were two hundred and one infants that properly come under our consideration in studying the effect of version upon the infant. It should be borne in mind that this series includes most of the difficult cases that I have seen in the past fifteen months. For instance, labor was induced four times for profound toxemia, and in five cases for antepartum hemorrhage. An analysis of the infant mortality will show that with few exceptions, the death cannot be attributed to the method of delivery. Two of the infants were so premature as to be nonviable, weighing 1.5 and 2 pounds and measuring 30 and 32.5 cm. in length. Ten others were premature, according to the standards set by Holt and Babbett, weighing less than five pounds or measuring less than 46 cm. In fourteen cases it was known that the child was dead before delivery was attempted and the version was done in the interest of the mother's soft parts. Two were cases of prolapsed cords in which all pulsation had ceased. Three feti were macerated. Three were neglected shoulder presentations. In two cases of twins the mother had given birth to the first child which was stillborn, and version was done on the second. In three cases the fetal heart had stopped before any attempt was made to deliver the patient. Craniotomy was done twice, both times on dead babies. The first time it was done on account of a marked disproportion between head and the pelvis, and the second time to get the head through a rigid, half-dilated cervix in a case of placenta previa with continued bleeding. There were three other

stillbirths, but in each of these the fetal heart was beating when the operation was begun.

Two cases showed at autopsy a markedly enlarged thymus, and no other lesion. One child, that died on the day of delivery, had extensive vegetations on both mitral and tricuspid valves. This child's mother had a very severe attack of tonsillitis about six weeks before delivery. There was one hydrocephalic fetus in the series, which lived about an hour. One placenta showed a large red infarct. The infant in this case was premature and died on the second day. One premature child died on the eighth day after being badly chilled. Another premature child was born of a syphilitic mother, but at autopsy showed no evidence of syphilis. In one case labor was induced prematurely on account of toxemia of the mother. The child weighed four and a half pounds and died on the second day. One child presented an angioma of the scalp and although apparently at term, was greatly undersized. One infant, delivered after a dry labor, had an extensive intracranial hemorrhage.

This brings us to the class of difficult deliveries, from one cause or another. The first of these was that of a colored woman. Although she had a normal pelvis, I had great difficulty in delivering the shoulders. It was one of my early cases, and I had not learned the knack of rotating the child's body to bring a scapula under the symphysis. I believe now that I would have no difficulty with such a case. Another case caused us great difficulty on account of poor anesthesia. Dr. Carter was doing the version and I was giving the anesthetic. The patient was greatly excited. The house had caught on fire from an oil stove and the fire apparatus, police patrol, and a Saturday night crowd had greatly upset the patient. When the excitement had subsided, and we had the patient back in the house, I was unable to get her relaxed, either with chloroform or ether. The version was on that account very difficult. I believe, now in looking back to this case, it would have been better to have delivered her with forceps. In another case the difficulty was caused by a funnel pelvis and the delivery should have been done with forceps. In three cases the dystocia was caused by large overdue babies. Two of these measured 58 and 60 cm. and the third was described as "tremendous," but was not measured. The ideal treatment for these cases would have been to have induced labor at the expected time of confinement. This was suggested to one of the patients, but was refused. As long as these patients waited until they went into labor spontaneously, it is open to question whether any other method of delivery other than Cesarean section, would have given better results.

In judging the Potter version from the standpoint of the infant, there is a great difference whether the operation is done at the end of the first stage of labor, or later, when some method of delivery is im-

perative. The difference in ease and results reminds one of the difference between elective Cesarean section and section done as a last resort. There were thirty-nine cases in which the second stage lasted for thirty minutes or more. Seven of these infants died, 18.2 per cent. In addition to the fatal cases, one infant had to be resuscitated. We can study the same factor from a different angle by separating the cases into the various services. Those at the Spring Street Home, with three exceptions, fall within the elective group. One of these came into the home in labor and was delivered of a premature baby and a placenta that contained a large red infarct. The second exception was a girl who refused induction of labor at the time she counted to be confined. She went a month over her time, and was delivered of a ten pound baby 58 cm. long. The third exception was a shoulder presentation, who refused bags for dilation of the cervix. The shoulder was jammed down into a hard unyielding cervical canal and the neck stretched out, until the baby died. The only other death at the Spring Street Home was that of a hydrocephalic fetus. Yet, with these cases included, the mortality in the 33 cases is the lowest of any other group, i. e., 12.1 per cent. My next group in electability is that of my private patients. Most of these, especially the earlier ones, required some indication, usually that of severe pain or fatigue, before giving their consent for intervention. In this group the mortality, irrespective of maturity is 14.8 per cent. Dr. Carter's cases, eighteen in all, were less inclined to give their consent for a version, and his mortality is 16.66 per cent. The consultation group of twenty-three cases, usually presented some of the well-recognized indications for rapid delivery. The mortality in this group is 17.4 per cent. The fifth group, or the student cases, is composed very largely of negroes, who have to be nearly dead before they will consent even to an anesthetic. The fetal mortality here is 17.55 per cent.

It is yet too early, of course, to judge of the remote effect upon the child, as my oldest case is only about 15 months of age. The shortening of the second stage is in line with the movement to reduce the number of head injuries. Arthur Stein[9] in 1917 in a paper entitled "The Influence of Labor on the Brain Development of the Child," says: "To delay the application of the forceps, as is the rule of many obstetricians, until the fetal heart sounds become weak and inaudible, means that irreparable damage has often already been done to the infant's brain. In the interest of the child, unduly protracted births should be terminated by judicious intervention." Dr. Frederick Peterson, in discussing this paper, says that the chief cause of palsies occurring during parturition was tedious labor with resulting intracranial hemorrhages. The application of forceps in tedious labor did less injury than the long-continued compression. What is true of palsies, he believes is also true of a number of cases of epilepsy, and the three degrees of

defective mind, namely, feeblemindedness, imbecility, and idiocy. For some time, it has been my practice, in the interest of the child, to interfere in the second stage of labor whenever there is the least hesitation in the progress of the head. In other words with the use of forceps, I have been shortening more and more the second stage of labor. Potter, with his version, has gone a step further, and has practically eliminated the second stage.

CONCLUSIONS

1. The Potter version can be taught to students. It is easier to teach than the use of forceps.
2. It protects the maternal soft parts against undue injuries.
3. In the interest of the child, it should be done gently and deliberately.
4. A competent anesthetist is of prime importance, especially in those cases in which the membranes have ruptured early.

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1600 Park Avenue.

DR. POLAK (closing the discussion).—In regard to the point brought out by Dr. Davis, I think all of us have adopted in the last few years the method of allowing placental delivery to take place by itself without the expression of the placenta.

Sometime ago I presented a paper, as some of you may remember, on spontaneous delivery of the placenta in 2000 cases, and in those cases we found that the placenta came away of itself without any expression if it was allowed to separate under the stimulus of the uterine contractions.

In regard to Dr. Zinke's point of the difference between sapremia and streptococcus infection, I did not make it very clear because I feel that sapremia is only an exaggeration of the normal exfoliation of the endometrium, and that the dead material is infected by the bacteria which have come up from the vagina. But since we have been making anaerobic cultures we have found a large number of these uteri that had been potentially sterile were of the saprophytic type, and contained the obligate anaerobic streptococcus which, under proper environment, may become an active streptococcus. In our own cultures made from the interior of the uterus, at forty-eight hours, five days, and seven days after labor, we found that about 50 per cent of the uteri cultured contained streptococci after the first seventy-two to ninety-six hours; yet at the end of a week these same uteri were practically sterile of this coccus, particularly if they ran an aseptic temperature, showing that the uterus in its development of the granulation zone will develop an antibactericidal action; consequently we feel, if it is capable of doing that by the formation of this leukocytic wall, all it needs is drainage. Stimulation of the proper contraction and retraction produces a Bier congestion of the uterus. Sampson's descriptions and pictures show how dangerous it is to attempt cleansing the relaxed uterus of its contents.

DR. IRVING POTTER, of Buffalo, N. Y., presented a report on the **Results of His Method of Version.** (For original article see page 560.)

DISCUSSION

DR. ROSS MCPHERSON, NEW YORK CITY.—Everybody that goes to Buffalo and sees Dr. Potter's work comes back convinced that there is a good deal in his method. I know of at least half a dozen surgeons who in the last year or two have visited Buffalo, have seen Dr. Potter operate and have all become convinced that he has accomplished a great deal with his work.

In view of the number of cases which Dr. Potter has reported, this Association should begin to manifest something else besides a critical and destructive attitude towards his work. When you eliminate the cases which have died from other causes than the delivery, his stillbirth figures compare very favorably with those published elsewhere.

I have tried two or three versions on the plan Dr. Potter has outlined and I confess that the shoulder delivery has appealed to me tremendously as I have always delivered the other way.

I have been skeptical as to the results in regard to perineal laceration but in a case I had day before yesterday, a primipara, the baby weighed nine pounds and there was insignificant laceration. I have never before succeeded in doing version without making a regular laceration which required considerable repair and I have been amazed at the satisfactory results where the vagina is thoroughly dilated and delivery is done slowly.

I wish Dr. Potter would tell us more about the delivery of the aftercoming head, for this is a very important point and I hope that he will show us how he proceeds with the aftercoming head as soon as the arms and shoulders are delivered.

I do not believe however that we can trust every general practitioner doing obstetrics to perform this operation, because the minute this practitioner gets to manipulating the interior of the uterus and doing internal podalic versions, he will not only rupture the uterus and have infections, but will also have an increased mortality among his babies. I do think, however, that if every one who is doing operative obstetrics, will go to Buffalo and see Dr. Potter work and learn how he does his operation, he can get a great deal of valuable information and improve the results he has had in versions in the past.

DR. ABRAHAM J. RONGY, NEW YORK CITY.—For four years I have opposed Dr. Potter's teaching and I am still of the same opinion. However, through the kindness of Dr. Potter I had the opportunity of witnessing two versions performed by him. Since then my reason for opposing his teaching became still greater because I found Dr. Potter to be a master in obstetrics and I dare say that there is no one in any lying-in hospital in the United States that knows how to perform versions so well as Dr. Potter. I honestly believe that it is still a dangerous procedure to be applied by the average obstetrician in any of the lying-in hospitals.

What Dr. Potter can do very few of us are able to do as far as version is concerned, but I do want to reiterate that this procedure must not be made light of otherwise it will be undertaken by those not competent to perform it.

DR. HERMAN E. HAYD, BUFFALO, N. Y.—You cannot imagine how pleased I am to hear the obstructionists endorsing the excellent work of Dr. Potter which they saw in Buffalo, some of the results of which he presented to the Association some years ago. At that time, as many of you know, his statements were questioned and he was thought to be not only unscientific but dishonest.

It seems to me it is an absurd position for Dr. Rongy to take when he says that even a skilled and experienced obstetrician cannot do this work as well as Dr. Potter. I will admit that with such an arm as Dr. Rongy has he will not be able to do it as well as Dr. Potter but yet he will do it without danger to mother or child.

When we go to witness the Mayos operate, or to see Dr. Crile operate, we see the masters and yet many of us do some of our operations in the abdomen just as well and as skillfully as Dr. Crile and the Mayos do them. You can do this operation of version well if you go to Buffalo and learn how to do it properly. It is absurd to say that Dr. Potter has supernatural powers. He has simply had a lot of experience and he is just as skillful in doing version as Dr. Crile is in doing thyroid operations. Dr. Crile may beat me in doing a thyroid operation, he will beat me in time and in technic, but my patients all get well the same as his.

Just think of it, gentlemen, in the city of Buffalo we have about 13,000 children born every year. We probably have over 800 doctors, besides all the midwives, and yet Dr. Potter delivers over one-thirteenth of the babies born in Buffalo. You can hardly believe that, but he has shown by his records that there is nothing better in the whole world. Last year he did not have a death; this year he has had two deaths, one of them with pneumonia after the woman left the hospital, and another one forty days after delivery with some kind of infection. There is no record in the world of which I am familiar that can touch it, and what is the explanation? The explanation is, first of all, asepsis; second, profound anesthesia; third, no traumatism to a latent gonorrheal pus tube; no injury of any of these tissues that produce infection that will go on for two or three or five or six weeks. There is the elimination of pain; a certain amount of individual recreation to the obstetrician so far as the work of obstetrics is concerned. Of course, when I say recreation, I mean that he can do this work

just as you and I do an operation. When a patient is in labor he makes an examination, and from his experience he knows in half an hour whether dilatation will be sufficiently advanced and then he can make the necessary delivery.

It has been said that this must not be taught in an Association like this, it will do harm. I do not think it will do any more harm than when you teach students the way to do abdominal section and because a thing may have some evil attached to it we must not lose the good it may have also. The ordinary doctor is not supposed to do this kind of work, and he does not do it and he cannot do it, but that does not militate against a first-class, trained man doing it. Yes, we have in our Association a man, who is the only man that has ever brought anything new in obstetrics in the last fifty years, outside of aseptic surgical practice.

DR. E. GUSTAV ZINKE, CINCINNATI, OHIO.—When Dr. Potter presented his first paper, five years ago, there was not a man present who supported him in his practice, and it was very hard to restrain the members from having him expelled from the Association. There is no rule without an exception. I am the exception in this case, for Dr. Potter taught an old man a new trick. While I did not believe everything he said at that time, I did not think he was lying, for the manner in which he presented the subject was so impressive that any man who had listened to him attentively felt he was sincere, and I asked the members to deal kindly with him; to wait and see. I went to Buffalo, therefore, to observe him at his work. He performed several versions in my presence, and did them most skillfully and successfully. He is able to teach the younger men how to do his work, and there is where lies his chief merit. Think of a man's delivering 1100 women, personally, within a year! That is a marvelous accomplishment in itself. Of course, we must not forget that he lives in his automobile; he sleeps upon the floor in the patient's home; he rests almost anywhere, in any position, under all conditions. He is devoted to his patients and to his practice. It is the duty of every man who attends to the practice of obstetrics, and who intends to practice it in the future, to see Dr. Potter while he has an opportunity, for we never know how long Dr. Potter may last, and his method of practice should not be lost. It is undoubtedly of benefit to suffering womankind. It helps the obstetrician; it saves suffering; it saves lives.

DR. WILLIAM G. DICE, TOLEDO, OHIO.—I do not dread breech cases as I formerly did, especially cases of extended arm, after seeing the work of Dr .Potter and with what ease he manages the arms. Delivery of the extended arm is now made by me in accordance with the method he has described.

I think it would be of interest to those here, because he has undoubtedly taught a number of men, if he could give us definite statistics of the work of these other men which would possibly throw some light on the ability of those less skilled to do this work.

A question which has come to my mind is that I see rupture or bursting of the membranes early in labor, and frequently before labor begins, and of course we have then a different situation with which to deal. I simply wish to ask in regard to these cases of dry labor, whether he has any greater difficulty in dealing with them.

DR. JAMES A. HARRAR, NEW YORK CITY.—I would like to emphasize a few things, the omission of which may have been noticed by those of you who have seen Dr. Potter work. First, that he uses his left arm in going after the feet, no matter how the baby lies; second, the extreme deliberation with which he makes the breech extraction. It is a continual glacial-like movement of the child. You see not one inch being born instantly; third, the pressure of the rigid fingers of the external hand just above the symphysis and below the uterus digging in to deliver the head through the brim; and last, the gentleness and unconcern with which he handles the newborn child. The babies are not spanked or tubbed. He strips the pharynx ex-

ternally, lays the baby down and turns to the management of the mother. In seven or eight or ten minutes the baby begins to whimper and the spectators breathe more freely.

DR. POTTER (closing the discussion).—I feel I owe a great deal to Dr. Zinke and Dr. Hayd for the manner in which they have discussed this operation. The first time I heard Dr. Zinke discuss this subject I thought he would have a stroke of apoplexy, and I thought I would be hanged for murder. (Laughter.) Since the Indianapolis meeting we have been doing versions more frequently each year.

Dr. McPherson spoke about the delivery of the aftercoming head. There is a maneuver that is of great assistance. After the shoulders are out, the operator puts the first two fingers of his left hand in the child's mouth, and with his right hand above the mother's symphysis aids flexion of the head, and makes what pressure is necessary on the aftercoming head, but we never make pressure on the aftercoming head until the shoulders are out. We do not get the arms over the head. We do not get any locked shoulders. I do not know anything about that, although other practitioners say that they have it and why do not I get it? It is because they push the head down between the shoulders, the head being a movable body goes between the shoulders and up go the arms, and then you have extended arms every time. You should get the shoulders out first and the head flexed in the pelvis and guide with your fingers in the child's mouth. If there is any assistance needed, I now have my anesthetist help with the aftercoming head. With gentle pressure from above, the head now passes through the pelvis, being guided by my fingers in the child's mouth. If it is necessary, I put forceps on to raise the aftercoming head and finish the delivery with forceps.

One man who has seen me do this work has done a hundred and fifty of these versions without any difficulty in the past year. Another has done 121. I presume there are others who have done fully as many without any trouble. Many practitioners are doing this operation in their various localities.

Dr. Rongy said it should not be taught. It has been taught to these men, and I do not hesitate to say it can be taught to competent men.

So far as Dr. Dice's remarks are concerned, he must not lose sight of the fact that a breech presentation is a different proposition from a version. In a version we have flexion, and when once we lose flexion we are lost; when we have a breech, we get the head extended. In version we maintain flexion.

As to the point made in regard to rupture of the membranes, I do not think that is any bar to version. If the uterus is relaxed under anesthesia so I can lift the head up, I perform version. I use my left hand in the uterus because it is easier for me. Slowness is a matter of necessity. The time it takes to do this operation is variable. In some cases I have been twenty-three minutes in delivering the baby. We do not spank the child; we do not put the child in cold water. I use a small catheter in the larynx for resuscitation, and start with a little manipulation of that catheter, pressing the air out. That is seldom done, however.

DR. EDMUND D. CLARK, of Indianapolis, Indiana, read a paper on **Fibroids of the Ovary.** (For original article see page 603.)

DISCUSSION

DR. OTTO H. SCHWARZ, ST. LOUIS, MISSOURI.—I was not under the impression that ovarian fibromata were as rare as the doctor stated. Ovarian myomata, however, are very rare. It has been very difficult for me to decide