

4. Osteo-arthritis frequently attacks the spine and causes antero-posterior deformity. This occurs most often in adults, usually men. The forward and backward motions of the spine are restricted; the kyphosis involves several of the vertebrae and is produced by the lipping of the cartilages about the vertebral bodies, and this lipping is so situated on the anterior portions of the vertebral bodies that the complete flexion and extension of the spine is limited. These deposits are analogous to Heberden's nodes in the terminal phalanges of the fingers.

5. Rheumatoid arthritis seldom attacks the spine, but when it does it causes an atrophy of the intervertebral discs, as a result of which the spine manifests a long sweeping curve, which cannot usually be corrected without pain and spasm. Other joints invariably manifest the characteristic lesions. It is a disease of young adult life, and, so far as it involves the spine, is apparently more common in men.

6. Osteitis deformans, or Paget's disease of bone, is a disease of late adult life, occurring in men usually and resulting in an antero-posterior flexion of the whole spinal column together with considerable thickening and bowing of the long bones. The column becomes usually completely ankylosed. The kyphosis shows itself in these cases in the form of a long sweeping curve.

7. Osteomalacia, most often seen in women in adult life and during the parturient state, causes occasionally a kyphosis. As a result of the slow softening which takes place in the bony structures of the spinal column in this disease the latter gradually assumes a moderately pronounced degree of curvature—one quite different from the sharp bend that follows the inflammatory type of bone disease. At the same time evidences of the same morbid process will be observed in other bones of the body.

8. By far the greater number of antero-posterior curves in the spine are caused by tuberculosis (Pott's disease). In these cases the spine becomes sharply bent, during the active stage of the disease, at some one point, owing to the fact that at this time only one or two vertebrae are involved. The disease is most common in childhood, and is about equally distributed as to sex. It may involve any part of the spinal column, but is most common in the dorsal, somewhat less so in the lumbar, and least common in the cervical region. It cannot be obliterated by hyperextension, and is accompanied by muscular spasm in the spinal muscles at the seat of the disease. It is by no means uncommon in adults, either as an acute or as a chronic process, as late as middle life. It is usually slow in development.

9. Acute osteomyelitis attacks the spine not infrequently. It is acute in onset and may follow some septic process such as tonsillitis or other infectious disease. It causes some kyphosis, though not the acute bending of the spine that is observed in Pott's disease. There is much pain, chiefly local in character, and considerable fever is present. In most cases suppuration takes place and sequestra are formed. The whole course is much shorter than in Pott's disease, and the deformity is much less and is due more to muscle spasm than to destruction of vertebral substance.

10. Malignant disease, both carcinoma and sarcoma, is said to occur primarily in bone, but is much more commonly secondary to malignancy elsewhere—usually the breast or the intestine. The bend in the spine is generally of small size, and is due to the destruction of the bone trabeculae by the cancerous infiltration. The most striking feature is the great pain of which these patients complain. The disease develops slowly and is characterized by marked cachexia, and the peripheral sensory disturbances predominate over the peripheral motor disturbances, the reverse of the condition seen in Pott's disease. Malignant disease occurs in adults and rather more frequently in women than in men.

Sarcomatous kyphoses may be both primary or secondary, the latter usually following sarcoma in the liver. They occur in childhood most commonly, and are more rapid in development than those due to carcinoma.

11. Occasionally the muscular dystrophies, by causing a sharply limited muscular atrophy, give rise to an apparent kyphosis where the atrophy of the spinal muscles stops and the normal muscle commences. This ought to cause no difficulty in diagnosis, as the atrophy which could possibly cause any such confusion is usually confined to the scapular group of muscles and the spinal muscles in the immediate vicinity, and the atrophy and loss of power in the scapular groups would show clearly the diagnosis, aside from the absence of other spinal symptoms.

12. In this same category we have infantile paralysis, involving the trunk muscles and causing a long sweeping curve in the spine with prominence of several spinous processes. The patients are unable to sit erect, and, besides the history of infantile paralysis and the usual presence of paralysis elsewhere—e.g., in the extremities, the muscles being flaccid,—there is abnormal mobility in the spinal column in all directions, with entire absence of muscle spasm.

13. Certain functional conditions in the region of the spine may also cause a kyphosis. They are associated, as a rule, with the neurasthenic state, but sometimes they are simply the result of the loss of muscular tone in rapidly growing children, particularly girls, or in patients who are convalescing from pregnancy or from some acute disease. Finally, they are also observed in the blind as a result of an habitually faulty posture. The curve observed in such cases is of the long, sweeping character, and may easily be corrected by suitable manipulations. It is not accompanied by spasm, but in the neurasthenic it is frequently associated with hyperaesthesia along the spinous processes.

Under this functional head should be included the hysterical curvatures.

14. Syphilis. The tertiary manifestations of this disease are occasionally seen to cause an antero-posterior curvature of the spine. The character of the bend in the spine and the symptoms which occur differ but little, if at all, from those seen in Pott's disease, and the history must be chiefly relied upon for establishing the diagnosis. These cases will respond to antisyphilitic treatment, and they are less apt to be accompanied by a cold abscess.

15. Typhoidal, Gonococcal, and Post-Scarlatinal Kyphosis. In the kyphoses which are due to these diseases the absence of any protrusion along the course of the spine or of any suggestive symptoms, prior to the onset of the acute disease, must first of all be established. The deformity in these cases develops much more rapidly than it does in other forms of the disease; furthermore, the first evidences of the change are usually observed during the acute stage or at least early in that of convalescence. The entire course of the disease is of much shorter duration than it is in any of the other forms of kyphosis. The results obtainable from treatment are also apt to be better.

16. Mollities Ossium, Hydatids, Actinomycosis, and Aneurisms.

A very rare cause for kyphosis is the process of bone softening known as mollities ossium. This occurs more commonly in children than in adults, and the spinal column is just as liable to be affected as are any other parts of the bony framework. The fact that the softening rarely if ever affects any one part of this framework alone should aid one materially in making the differential diagnosis.

The presence of hydatids, forming cysts in the vertebral bodies, is extremely rare, but has occurred. A correct diagnosis can of course be made only after the discovery of the hooklets in the contents of the opened cyst.

Of about equal rarity is the occurrence of actinomycosis as a cause for kyphosis; this also could be demonstrated as the cause only by finding the fungus in any pus coming from the spine of a patient thus affected.

The pressure made by an adjoining aneurism may cause erosion of one of the vertebral bodies and thus lead

to a kyphosis having an antero-posterior curve. The pain, while this process is going on, is very severe. Such cases occur almost always in middle adult life, and careful examination at repeated and short intervals may clear the diagnosis.

The foregoing, in brief, are the principal causes for kyphosis.

The nature of the process that gives rise to a bony kyphosis must be determined through a consideration of (a) the history, (b) the duration, (c) the onset, (d) the presence or absence of muscular spasm, or of bony ankylosis, (e) the presence, either immediate or remote, of diseases elsewhere in the body which, if present in the spine, would cause a kyphosis, and lastly (f) the presence or absence of paralytic conditions in the spinal muscles.

Charles F. Painter.

LABIATÆ.—(*The Mint Family.*) A very large family of more than one hundred and fifty genera and about three thousand species, growing in almost all parts of the world. The constituents and properties of these plants are so uniform, and so important, that their recognition is highly desirable. They have square stems, opposite, almost always aromatic, but not punctate leaves, the corolla usually, and the calyx frequently, bilabiate, the stamens two, or four, and didynamous, the ovary two-carpelled and maturing in the form of four one-seeded nutlets. The last character distinguishes them from the closely related Scrophulariaceae, which are frequently poisonous, while the Labiatæ never are. These plants are often exceedingly showy. Their only other value resides in their almost invariably aromatic properties, due to the presence in them of volatile oils. The mints, lavender, rosemary, pennyroyal, thyme, and various others of the class are treated in this work in their proper order. A host of others, some treated in the previous edition of this work, might be enumerated. Some of those more commonly used are the sweet marjoram (*Origanum Majorana* L.), summer savory (*Satureja hortensis* L.), dittany (*Cunila Mariana* L.), hyssop (*Hyssopus officinalis* L.), Ajuga, *Cedronella*, various species of *Monarda*, *Kaellia* (*Pycnanthemum*), *Calamintha*, and *Orthosiphon*. Others contain a bitter substance also, and are used as aromatic bitters. Representatives of this class, treated in this work, are horehound and sage. Those of minor importance, of the same class, deserving of mention, are wild origanum (*O. vulgare* L.), glechoma or ground ivy (*Glechoma hederacea* L.), germander (*Teucrium Chamædryas* L. and various other species of *Teucrium*), motherwort (*Leonurus Cardiaea* L. and other species of *Leonurus*), many species of *Mesosphærum* (*Hypitis*) and *Ocimum*, and several of *Lamium*, heal-all or *Prunella* (*Brunella*), *Lycopus*, or bitter bugle and *Scutellaria* or skull-cap. Occasionally these plants, as in the case of salvia, combine a considerable amount of tannin with their volatile oil and amaroid, and have distinctly astringent properties.

Henry H. Rusby.

LABOR, NORMAL, MANAGEMENT OF.—The ability properly to manage a normal case of labor is one of the most essential features in the armamentarium of the practising physician, and occasions for showing this ability will confront every medical man before he has been long in the field. To the student or young practitioner in attendance upon his first case of labor there is much that is embarrassing and calculated to disturb his equanimity. The intimate relation in which he is thrown in contact with the patient, the necessity for making examinations that are revolting to every woman, his painful consciousness of his own lack of experience, and the fact that there are present bystanders who possess the very thing that he lacks, namely, practical experience, all conspire to make his position an embarrassing one. Some consolation may be found in remembering that labor is a physiological process, which, if left absolutely alone, will result in a large percentage of the women being safely delivered. And unless certain definite indications manifest themselves, an attitude of watchful inaction is

better than one of meddling interference. On the other hand, it must be borne in mind that, although a physiological process, there are many emergencies which may arise, in the course of a seemingly normal labor, the proper recognition and treatment of which will either save the life of the child or mother, or forestall years of chronic invalidism on the part of the latter.

The most important complication arising from the improper management of a case of labor is infection, and it may be said here that the principal directions given as to the method of conducting a case will be for the purpose of avoiding this unfortunate result. Before the time of Listerism the mortality of childbed was from two to ten per cent., and in certain epidemics very much higher (Jewett, "American Text-book of Obstetrics," first edition). In some of the lying-in hospitals in those days the mortality was frightful, and according to Williams ("Practice of Obstetrics by American Authors," Jewett, second edition) the frightful mortality occurring in such institutions attracted the attention of the public at large, and steps were being instituted to abolish them as a menace to public health. In 1880, when Pasteur (*Bull. de l'Acad. de Méd.*, 1879) discovered that streptococci were present in large numbers in the bodies of women who had succumbed to puerperal fever, observers began to realize that this disease was analogous to a surgical infection and, in a great measure, preventable.

In no branch of medicine have the results of antiseptic surgery been so markedly shown as in obstetrics, and the mortality which before 1880, as has been said, was from two to ten per cent., at once dropped, so that at present a septic death in a well-organized lying-in hospital is an exception, and various authors have cited statistics based on many thousand cases in which the septic mortality was only 0.25 per cent. A graphic example of this kind came to the notice of the writer only a short time ago, while looking over the records of the Maryland Lying-in Asylum in Baltimore. Of 100 cases that were delivered in 1879, 42 of them had a temperature above 102° F. during the puerperium; while in the past three years, 1899, 1900, and 1901, there has been only 1 septic death in about 400 cases.

Although the large clinics have profited by the advent of antiseptic surgery, the same cannot be said of the results of the general man. This is unfortunate, but it is nevertheless true, and can be explained by the simple statement that the average practitioner in medicine either does not know how to, or will not, practise an aseptic technique. The truth of the statement just made is evidenced by an article which was published a few years ago by Reynolds, of Boston (*Boston Med. and Surg. Journal*, cxxxi.), who in 1893 attempted to write an article upon the prevalence of puerperal fever in that city. On looking over the records furnished by the health office he found, if such records were diagnostically correct, that in his own practice he had seen more than one-fourth of all cases of puerperal fever that occurred in Boston in that year; a thing obviously ridiculous, but probably due to the fact that the laity, knowing the nature of puerperal infection, were wont to put the blame on the physician in charge, who to avoid this reproach reported such cases as typhoid fever, pneumonia, and such like. Bacon (*American Gynecol. and Obstetrical Journal*, 1896), in an article based upon the health records of Chicago, says that puerperal infection still played a very prominent part in the death list, and, according to Boxall (*The Lancet*, 1893), the lessened mortality of childbirth since 1880 is not so much due to the lack of puerperal infection as to better and prompter application of operative procedures, and he makes the statement that in the rank and file of the profession outside of lying-in hospitals the results are as bad to-day as they were twenty or even forty-five years ago. Garrigues ("American Text-book of Obstetrics," first edition) makes the following statement: "The hospital is now the safe place for a woman to be delivered in; it is in private dwellings that danger lurks. The poorest, the dirtiest, the most dissolute women are safely confined in a hospital; the richest, the youngest,

the purest, and the loveliest sometimes succumb in giving birth to a child in their own homes."

Such being the case, it then becomes more than the duty of every medical man to practise to the best of his ability an aseptic technique in the management of labor cases. In private practice this is sometimes not an easy matter. While in the hospital, the resident physician sees no septic cases, everything that comes in contact with the parturient undergoes a rigid sterilization, and at the time of the labor there is no lack of assistants to maintain the aseptic technique, on the other hand, the patient delivered at her home is in the hands of a general practitioner who may have in the next house a case of erysipelas, sterilization is difficult, and at the time of the labor he has no assistance save that which is rendered by a very inefficient nurse. Again, in private practice the obstetrician may be led, by his sympathies for the patient and by requests of members of her family, to do something contrary to his better judgment.

So much for the general principles which govern the management of labor. In what is to follow, little will be said as to the management of labor in hospitals, as in many of these institutions the technique is beyond reproach, but we will turn our attention to the management of labor in private practice, for here, unfortunately, there is room for vast improvement. We will consider the subject under two heads, namely: The Care of the Patient before Labor, and The Actual Management of the Labor.

THE CARE OF THE PATIENT BEFORE LABOR.—(a) *The Obstetrical History.*—When a patient engages a physician to look after her in an expected confinement he should take a complete history of the case. Many physicians have specially printed blanks for this purpose, among whom may be mentioned Ayers and Edgar, of New York, Hirst, of Philadelphia, and Williams, of Baltimore. While such a method of keeping records is simple and easy it is not absolutely essential, and any history carefully preserved will be not only of the greatest help at the time of the labor, but also valuable legal evidence if any occasion for it should arise. The form of the history is not important, but it should be recorded so as to contain the following data: name, age, race, and condition of patient; *marital history*: how long married, if the present is her first or second marriage; the number of miscarriages, length of time in bed after each; important sequelae, if any; previous labors, whether normal or abnormal, and if abnormal, how delivered and why; condition of the children at birth and at present. Important information may often be obtained by the thorough investigation of a previous difficult labor. *Menstrual history*: age of first menstruation, frequency, duration, and amount of pain and discomfort, date of last menstruation, from which can be deduced with reasonable accuracy the date of expected confinement. *Family history*: here any possible hereditary tendency is investigated. *Personal history*: this should contain a complete medical summary of the ailments from which the individual under consideration may have suffered with special reference to diseases that result in heart or kidney lesions, for example acute rheumatism and scarlet fever, together with those diseases of the bony skeleton which result in the production of deformities of the pelvis, namely, rachitis, osteomalacia, coxalgia, spinal curvature, etc. *History of the present pregnancy*: supposed date of conception, amount of nausea in the early months, date of first perception of fetal movements, symptoms attributable to renal insufficiency, such as headache, disturbance of vision, oedema, epigastric pain, and finally any other symptoms of importance that the patient may suggest.

If such a history be taken in every case the obstetrician will find himself in possession of information which will later be of great value to him. The mistake is often made in considering labor purely a local process, and the operator is thunderstruck to find a pre-existing heart or kidney lesion of which he had no suspicion causing serious trouble. The history should be taken as soon as practicable after the physician has been engaged, and the

patient should be seen at regular intervals from then until the time of labor. If the history indicate no abnormality, a physical examination is not necessary until shortly before the date of expected confinement, but, if such be not the case, any suspected abnormality should at once be investigated.

(b) *Urinalysis.*—The importance of regular systematic examinations of the urine in a pregnant woman cannot be overestimated, for it is by this means only that we have a warning of one of the most frightful complications of late pregnancy and labor, namely, eclampsia. It is the habit of the author to examine the urine of every patient in his care at least once a month in the early months of pregnancy, and every two weeks from the sixth month on. If symptoms suggestive of renal insufficiency occur at any time except those above mentioned, the urine is of course at once examined, and in this way an albuminuria can be detected shortly after its onset. The routine of urinary analysis should be as follows: general appearance, color, and odor; reaction and sediment; specific gravity; albumin present or absent, if present, in what quantity (Esbach's picric-acid test); sugar, present or absent; microscopic examination with special reference to the presence or absence of tube casts.

The significance of albuminuria in a pregnant woman is of importance only to direct our attention to other more grave symptoms. It is a very common occurrence in a pregnant woman, according to Williams of the Johns Hopkins Medical School (personal communication); albuminuria occurs in 50 per cent. of 1,000 cases, albumin and casts in 7.3 per cent. In 200 cases delivered in the last year in the Maryland Lying-in Asylum, 38 had albuminuria and 3 albuminuria and casts. The difference between these two series of figures is probably due to the fact that the specimens of Williams were all voided, and the faintest trace of albuminuria was noted, while in those of the Maryland Lying-in Asylum only catheterized specimens were used, and a very faint cloud on boiling was not noted. It is usually considered that a trace of albumin without casts is of little significance, and in such cases, if the urine be examined again in a few days, the albuminuria will be found to have disappeared. If, however, it is in larger amount and associated with casts, one should at once investigate the nitrogenous elimination of the patient as indicated by the amount of urea. The best method of doing this is by the ureometer of Doremus, in which 1 c.c. of urine is introduced into a fermentation tube containing a standard solution of hypobromite of soda, and the resulting nitrogen read in the graduations of the tube. It is essential in this test that one should know in cubic centimetres exactly how much urine is being passed in twenty-four hours, and to do this a cubic-centimetre graduate may be left at the patient's house with directions that she measure all urine passed and send a mixed specimen to the doctor in the morning. If the amount of the urea per diem is found considerably below normal, 22 gm., she should at once be put on a milk diet and eliminative treatment, and a daily examination of the urine should be made. It is by this method only that we have a criterion as to the proper treatment and the condition of the patient in cases of suspected eclampsia; any increase in the urea indicating an improvement and any decrease the opposite.

(c) *The Preliminary Examination.*—This examination should be made in a case in which abnormality is not suspected about four weeks before the expected delivery. If, however, there is any reason to suspect the existence of any pelvic deformity, an examination had best be made not later than during the seventh month. In this latter instance, of course, it will have to be repeated later in the pregnancy. When the obstetric history was spoken of, attention was called to the fact that a general history was of the greatest importance. The same may be said of the examination, and the operator must not simply turn his attention to the genital organs, but make a critical study of the entire patient. It is always best to have a regular routine for such an examination, and the following is suggested: heart and lungs, breasts, general develop-

ment of bony skeleton, abdomen, pelvimetry, and the vaginal examination.

Heart and Lungs. Little need be said in this connection, as any one familiar with ordinary chest diagnosis will be thoroughly able to conduct the examination. As regards the heart, if a murmur be noted that is thoroughly compensated, in the great majority of the cases a good prognosis may be given. Exception must be taken, however, to mitral stenosis, as this is the lesion most likely to give fatal results. It has been erroneously supposed that pregnancy affords an immunity to pulmonary tuberculosis. This is due to the fact that tuberculous patients invariably do well during pregnancy. If, however, tuberculous disease of the lungs be found, the case should be watched with the utmost care, as it is not an uncommon occurrence for the disease to take on a much more acute form after the pregnancy is over. Lusk, quoting Spiegelberg ("Lehrbuch der Geburtshilfe"), says it often happens that women with inherited tendencies to phthisis may escape during their first pregnancy only to become its victims in a later one, and out of twenty-seven cases of phthisis collected by Grisolle (*Arch. gén. de méd.*, vol. xiii., cited by Playfair) the entire duration of the disease averaged only nine and a half months.

The Breasts. The breasts will be found to present the pigmentary changes characteristic of pregnancy, and note should be made of the condition of the nipples. It is frequently possible by proper treatment of the nipples instituted at this time to make a mother able to nurse the child who otherwise could not. In addition to this, the presence or absence of colostrum should be noted, as also the size and consistency of the gland, together with any abnormality.

Since Williams ("Obstetrics," vol. i., Nos. 5 and 6) has shown that contracted pelvis occur in 13.1 per cent. of all American women, one of the most important steps in the examination of a pregnant woman is the inspection of the bony skeleton in order to ascertain the possible existence of a deformed pelvis. Of particular importance is this when we are dealing with the negro race, for in this class of patients Williams has shown that contracted pelvis occur in 19.83 per cent. Points to be ascertained are the presence of signs characteristic of rachitis, such as the peculiar development of the cranial bones, the rachitic rosary, the "sabre-shaped" tibia. Again, any curvature of the spine should be noted, the most important being a kyphosis; and finally, search should be made for ankylosis of one or both hips, or for inequality in the length of the legs from any cause. It is frequently of great assistance in this connection to view the patient in the erect posture, for by this means a lateral asymmetry of the body is best seen.

Abdominal Examination. The abdominal examination is the most important of the various steps. Note should be made of the size of the abdomen, the position, consistency and general feel of the uterine tumor, the distance of the fundus from the ensiform cartilage, and, above all, the position and presentation of the child. The fetal heart, uterine and funic souffle together with movements of the child, can be heard on auscultation; the location of the former giving us important information as to the position and presentation of the fetus.

The diagnosis of position and presentation is such an important subject as to justify a little space being devoted to it alone. The examination is conducted with the patient lying on her back on a hard bed or examining table, the head and shoulders slightly elevated and the legs slightly flexed so as to relax the abdominal muscles. The abdomen should be bare, or covered with a very thin sheet. The best results are obtained if the operator has a regular method of procedure, and, in the opinion of the author, by far the best is that devised by Leopold and Credé ("Die geburtshilffliche Untersuchung," Leipzig, 1892), which is as follows: The method consists of four manoeuvres; in the first three the operator faces the patient's head, and in the last one he faces her feet. (1) With both hands the operator palpates the fundus uteri, and by this manoeuvre notes height of fundus and char-

acter of fetal parts in this portion of the uterus. If it be breech, he is dealing with a presentation of the head, and if it be head, with a presentation of the breech. (2) Still facing his patient's head he palpates with both hands the sides of the uterus and notes the hard, resistant plane of the back on the one side, and the irregular nodulation of the small parts on the other, according to the position of each; the presenting point is on the right or left side as the case may be, and is directed anteriorly, posteriorly, or transversely according as the back and the small parts are felt with unequal or equal distinctness. (3) Maintaining the same relative position he grips with that hand which is nearest to the patient the lower uterine segment between his thumb and fingers and notes the character of the part of the fetus at the pelvic brim. He can also tell by this manoeuvre whether or not it is engaged in the pelvis. (Note that this manoeuvre is complementary to the first.) (4) Turning so that he faces his patient's feet, and placing a hand on either side of the lower portion of the uterus, he presses the finger tips as deeply as possible into the pelvic brim, confirming his opinion as to the nature of the presenting part. If it be the head, he follows it with his finger-tips upward and notes on which side of the body of the mother it is most prominent. This location of "cephalic prominence" will tell him whether the head is flexed or extended; if flexed, the cephalic prominence is on the side of the small parts, and if extended, on the side of the back.

By this method it is always possible to make a diagnosis of the presentation and position of the child in the last three months of pregnancy. It is far superior to vaginal diagnosis, for this is not possible until the cervix is completely dilated and the head well in the pelvis. The advantage of the knowledge obtained thereby is obvious. If a malpresentation be diagnosed, means can be instituted during the latter months of pregnancy to correct it, or, if this be impossible, the physician is better able to cope with the abnormality when the patient goes into labor.

Auscultation of the foetal heart gives valuable information not only as to the existence of pregnancy and life of the child, but also as to its position in the uterine cavity. To hear it, requires a certain amount of practice, but when the ability to do so is once achieved its value is inestimable. According to Palmer ("Amer. Text-book of Obstetrics," first edition) it was first heard by Mayer, of Genoa, in 1818, and, according to the former, it cannot be heard earlier than the fifth month. In the opinion of the author, however, it is almost impossible to do so before the sixth. In occipito-iliac presentation the sounds are transmitted to the ear of the examiner through the back of the child and lie below the transverse line running through the umbilicus. In face presentations, as the ventral surface of the child is in apposition with the uterine wall, the sounds are best heard at the point where the thorax comes in contact with the uterus. In breech presentations the sounds are also transmitted to the back, but here they lie above the umbilical line. If this be borne in mind, the diagnostic value of this procedure is evident.

Pelvimetry. In a case in which the existence of a pelvic deformity is not suspected it is only necessary to make a few routine measurements of the pelvis. That this is necessary, however, is shown by the fact that before the first article on the occurrence of pelvic deformity in this country was published by Williams in 1896 (Bulletin of the Johns Hopkins Hospital, August, 1896), American obstetricians were of the opinion that pelvic deformity among American-born women was of greatest rarity. Williams contended, however, that the condition was only rare because it was not systematically sought for by routine pelvimetry, and in the first hundred cases which formed the basis of this paper he was able to show that fifteen women had pelvis the measurements of which fell below the normal standard. In several articles that have appeared since then by Williams and the author (Williams, "Obstetrics," vol. i., Nos. 5 and 6, and "American Medicine," 1901; and Dobbin, *American Journal of Obstetrics*, vol. xxxvi., 1897) the premise put forth by