and from the first with a limp. There has never been any loss of power in the limb. The child is very bright and well nourished, but walks with a decided limp of left leg. When the child stands erect, resting both feet upon the ground, the right knee is bent slightly forward. When the right leg is perfectly straight and pelvis horizontal the left leg does not fully reach the ground. Measurements give three quarters of an inch shortening in left leg, three eighths of an inch of the shortening being in the thigh. There is half an inch of atrophy of the left thigh, and a quarter of an inch of the leg. The left foot is decidedly smaller than the right (seemingly more marked than the tracing would show). By measurement in its longest diameter the left foot is a quarter of an inch less than its fellow. There is beginning valgus of the right foot. The face and upper extremities were closely examined, and were found to be slightly smaller than the unaffected side.

The treatment in all these cases has been an extra sole on the shoe to horizontallize the pelvis.

The writer has not considered measurements under a quarter of an inch, believing that the finding of bony prominences covered with soft parts as a point of departure in making any given measurement allows a latitude of at least an eighth of an inch in the hands of the most accurate observers; and pertinent to this question is an apt remark made by the late Dr. T. B. Curtis, who believed "that to find the anterior superior spinous process of the ilium in a living subject was as difficult as to precisely determine the top of a hill."

As far as the parents' observations go the atrophy is not progressive, and although these cases are not termed congenital there can be but little doubt that this is not an acquired deformity.¹ Whether the disproportion has been caused by an excessive growth on the one side or a retarded growth on the other is not easy to decide. Beyond this I cannot venture into the region of speculation as to cause.

In considering these cases as a class one finds that the mother's labors have been perfectly normal; that there is no difference in the pulse, temperature, consistency, tendon reflex or ankle clonus of the affected side; that the children are in good health; that they have never received any injury; that they simply apply for relief to the lameness; that the mother first noticed the trouble when the child began to walk; and that there has never been any loss of power in the affected limbs. The practical importance of these cases rests upon a recognition of the deformity, its differential diagnosis from various diseases having as a symptom lameness and atrophy of one of the limbs, and the general influence it will have in causing deviations in the spinal column, by obliquity of the pelvis. The important bearing which inequality in the length of limbs may have in producing lateral curvature is well set forth in a recent paper by Henry Ling Taylor,² where he reports thirty-two cases of primary crural asymmetry. The left leg was found to be longer in twenty-eight cases, the right in four. Dr. Taylor's differences in measurements are not in eighths or fourths of an inch; in sixteen cases the difference is over one half an inch, and in six it is an inch or more.

Not only may obliquity of the pelvis result from this

lack of symmetry, but it is probable that in female children important changes may take place in the pelvic cavity that may interfere very seriously with parturition. Finally, in one of our cases we have a beginning valgus which is apparently compensatory, and this deformity superadded to the asymmetry would seriously interfere with the locomotion of any child.

A FATAL CASE OF PUERPERAL CONVULSIONS PRECEDED BY EXCESSIVE EPIGASTRIC PAIN.

BY F. W. GOSS, M. D.

MARCH 1, 1884, I was called to a lady, thirty-two years of age, seven and one half months advanced in her fourth pregnancy, with the following history:—

Two years ago she had a miscarriage. Her confinements in 1876 and 1879 were, she thought, a little premature, but not otherwise abnormal. During the present pregnancy she has been quite comfortable most of the time, and appeared to be in a satisfactory condition when, six weeks ago, she called to engage me for her confinement, since which time I have not seen her until now.

At 12.30 A. M., March 1st, I found her suffering with intense pain in the epigastrium, extending through to the back. She said that for two days past she had had some discomfort in these parts, which she attributed to having taken cold in going into town in the horse cars three days ago. She ate a good dinner at six o'clock last evening, and was quite comfortable till within an hour, when the severe pain above mentioned came on. She has no headache, nor has she suffered from it, excepting occasionally, and no more than for years. No trouble with eyesight. Slight oedema of feet; none elsewhere. Cardiac and pulmonary sounds normal. No signs of labor. She thinks her urine may have been more abundant than usual for a few days past.

As stated above, I found her suffering from agonizing pain in the epigastrium and the opposite part of the back. She was restless, cold, pulse 76. Had a load at stomach, but had not vomited.

At one A. M. she vomited, evidently her dinner undigested. She felt easier for a few minutes, but the pain soon returned. Under the administration of morphia by the mouth and subcutaneously, and the application of chloroform liniment, she gradually became more comfortable, and at 4.30 A. M. I left her sleeping. I requested a specimen of urine as soon as any should be passed.

7.30 A. M. Has slept two hours, and is much refreshed. Has been thirsty, and has drunk a large amount of ice-water, which she is now vomiting. Mind perfectly clear. Has considerable headache, which may be due to opiates. Pulse normal. Skin warm. No urine has yet been passed. I left with the promise to call again at noon.

She vomited twice after this, and with some difficulty passed several ounces of dark-colored urine. At 9.30 A. M. her husband lay down beside her on the bed to sleep. At 10.30 he was awakened by his wife, who said she felt terribly, and believed she was dying. She immediately had a severe convulsion, and never recovered consciousness. The messenger not finding me at home, a professional friend promptly responded to the summons. He found no indication of labor, and at

¹ In this connection it is well to say that were the writer positive that the deformity is congenital he would prefer the term asymmetry to that of atrophy.

² New York Med. Rec., 1884, April 26th, p. 456.

once proceeded to deliver the patient by manual dilatation of the os uteri. When I reached the scene, soon after eleven o'clock, she had been delivered of a female, still-born child, and was rapidly sinking. She died at 11.30 A. M.

A subsequent examination of the specimen of urine which had been saved showed a specific gravity of 1030. It was dark in color. Under the microscope no blood was found, but there were an immense number of granular casts, and a few fatty and partially hyaline ones.

The object of this report is to call attention to a premonitory symptom of puerperal convulsions not often referred to. In looking through a large number of obstetrical works contained in the Boston Medical Library I fail to find but infrequent mention of the symptom in question. Braun, Ingleby, and Winckel translated by Chadwick, incidentally mention pain in the epigastric region as among the phenomena foreboding convulsions. Thomas Denman, to whom Churchill refers, says: "Convulsions preceded by violent pain or cramp at the stomach are usually more dangerous than those which are preceded by affections of the brain only." But Chaussier, as quoted by Leishman,¹ gives the most distinct reference to the symptom under discussion as follows: "There are three symptoms [of puerperal eclampsia] which, as premonitory indications, deserve special attention: these are cephalalgia, derangements of vision, and epigastric pain. . . . The third of the premonitory symptoms of Chaussier, epigastric pain, is of less frequent occurrence than the other two. The suffering is described as being extremely severe, lasting often for hours; and, when it is of unusual severity, it is said to be an almost certain precursor of a convulsive attack."

In view of these statements, and of the case here reported, ought we not, when called to a pregnant woman suffering from severe epigastric pain not clearly arising from indigestion, to bear in mind the possibility that she is threatened with convulsions of the gravest character?

PROGRESS IN DERMATOLOGY.

BY GEORGE H. TILDEN, M. D.

CUTANEOUS PIGMENT.

IN order to arrive at correct conclusions with regard to the formation and distribution of the cutaneous pigment Dr. S. Ehrmann² has made study of the skins of frogs and salamanders. From such investigations it is evident that the formation of pigment takes place only in the direct neighborhood of the blood-vessels, and that a necessary factor in the process is cell activity. Pigment is never manufactured in the epidermis, but is transferred to the latter from the corium, where it takes its origin, by means of currents of protoplasm. Demonstration of these facts is best given by the study of frogs. In these animals, namely, there exists under the epidermis, in the upper part of the corium, a continuous layer of movable and pigmented connective-tissue cells. Circumscribed collections of these cells are occasionally met with, however, which do not contain pigment, in which case the region of epidermis situated immediately over these cells, is pigmented to a

much greater degree than the surrounding epidermis. It is manifest that the pigment has been transferred from these localized regions of the corium to the overlying epidermis, while the connective-tissue cells of the corium in which the pigment is manufactured, remain in place. The coloring matter of the epidermis is contained in the cells of the deeper layers of the rete Malpighii, which are possessed of amoeboid prolongations, and also in peculiarly branched and movable cells from which extend processes between the epidermal cells. Pigment is taken up from the deepest layer of epidermal cells, and is further transmitted, partly by means of the bridges of substance which connect the epidermal cells, and also in part by the above mentioned branched amoeboid cells. This transportation of pigment is carried on by currents of protoplasm from one cell to another, and is not due to the currents of fluid in the tissues. The above facts with regard to the pigment in the skins of amphibians, where the conditions are of the simplest, hold true also, with slight modifications, of the movements of pigment in the human skin and hair. With regard to the latter, the cells which form the pigment are situated in the hair papilla, in a structure, namely, which belongs to the corium. In the root of the hair are to be seen branched cells, which send their prolongations between the epidermal cells of the hair, and which are in connection with the latter. These cells take up the pigment from the hair papilla, and transmit the same to the upper portions of the hair, and the common cause of grayness of the hair is the destruction and absence of these cells. Pigment cells are contained not only in the matrix and papilla of the hair, but are also situated between the two, these intermediate cells being connected by their prolongations both with the pigment cells in the hair papilla and with the similar cells in the hair itself. Even in the case of entirely white hairs the hair papillæ always contain pigmented cells, a single exception to this rule being furnished by the condition of senile atrophy of the skin. It may, therefore, happen that in spite of uninterrupted production of pigment in the corium the hair remains white because the cells do not exist, which transfer the pigment from its seat of manufacture to the hair itself. In the case of a man, twenty-eight years of age, who was possessed of numerous white hairs, the author found that the uncolored hairs, although otherwise normal, contained none of these pigment-transferring cells, while in the colored hairs belonging to the same individual these cells were invariably present. In another man, twenty-six years of age, there coexisted with a like condition of things in the hair a well-marked and progressive vitiligo, situated mainly upon the hands and face, a connection which well illustrates the near relationship between the two processes, canities being merely a vitiligo which is confined to the hair. In pigmented hairs, pigment cells are found in the root of the hair as well as in the hair papilla, but against the assumption that such cells wander from one position to the other is the fact that in the case of gray hairs, although typical pigment cells are present in the hair papilla, none are to be found in the root of the hair, there being at the same time no evident reason why these cells should not wander from the hair papilla into the roots of the hairs, since the tissues are normal in appearance, and in their behavior with respect to artificial coloring matters and chemical reagents the same as in pigmented hairs.

¹ Leishman's System of Midwifery, pages 640-641. Philadelphia, 1873.

² Allgemeine Wiener med. Zeitung, No. 29, 1884.