Taking such figures as correct, the placenta would in all probability be found (a) in the first or O.L.A. position, 67 per cent. upon the posterior wall and to the right side; (b) in the second or O.D.A. position, 10 per cent. upon the posterior wall and to the left side; (c) in the third or O.D.P. position, 20 per cent. upon the anterior wall and to the left side; (d) in the fourth or O.L.P. position, 3 per cent. upon the anterior wall and to the right side. Upon adding the first and second together we would have 77 per cent. upon the posterior wall, and with the third and fourth 23 per cent. In Vienna, out of 32 cases of Cæsarean section, 12 had the placenta in front. This, along with my own experience, which is 77 per cent. dorso-anterior and 23 per cent. dorso-posterior, would give 70 per cent. dorso-anterior and 30 per cent. dorso-posterior cases. At Heidelberg, in 161 cases of pelvic presentation, 121 were dorso-anterior and 40 dorso-posterior. This would give about 75 per cent. dorso-anterior and 25 per cent. dorso-posterior, and therefore in 75 per cent. the placenta would be more or less behind, and in 25 per cent. more or less in front. Upon comparison of these figures they will be found almost alike, thus:

Cranial	...	...	...	77 per cent. placenta posterior
	...	...	23	" " anterior
Pelvic	...	...	75	" " posterior
	...	...	25	" " anterior
Cæsarean section	...	...	70	" " posterior
	...	...	30	" " anterior
" " (Cameron)	...	...	77	" " posterior
" " (Cameron)	...	...	23	" " anterior

Again, in the case of transverse presentations it is quite possible that the attachment of the placenta upon a certain site might affect the contour of the uterus by interfering with its regular development, so that the fetus would come to occupy the longest diameter, namely, the transverse.

These observations, gentlemen, I submit to your consideration. To several members I have previously mentioned my ideas upon the subject, and now, as a member of the British Medical Association and of the London Obstetrical Society, I give them form, hoping that it may stimulate others to further investigation into this important subject.

THE THIRD STAGE OF LABOUR.¹

By A. H. F. BARBOUR, M.D., F.R.C.P. EDIN.

THE changes in the uterus during the third stage of labour are of great scientific interest and practical importance to those who are engaged in midwifery practice. The third stage is the period of greatest danger to the mother, and most anxiety to the accoucheur from the danger of hæmorrhage. And yet it is the stage with regard to which, up till recent years, precise knowledge has been wanting.

Several years ago,² from the study of uteri removed by Porro's operation, I brought forward several considerations with regard to the changes during the third stage. They were these: that the placenta did not separate until the commencement of the third stage of labour; that its texture was such that it could accommodate itself to the shrinking of its side until the uterus contained nothing but placenta, without separation taking place; that there was no empty space in the uterus into which the placenta could bulge; and that there was not sufficient evidence to support the view that retroplacental hæmorrhage was a factor in its separation.

These facts were called in question by many obstetricians (Champneys, Sanger, and others), inasmuch as they went against the hitherto accepted view that separation in the placenta began during the second stage, and that hæmorrhage was a factor in its production.

During the last few years there have been published frozen sections of third-stage uteri removed from the body, and also two frozen sections of the whole cadaver, which fully bear out these views.

Pinard and Varnier in their beautiful atlas³ give several sections of the uterus removed from the body. One is from

¹ Read in the Section of Obstetrics and Gynæcology at the Annual Meeting of the British Medical Association, held in London, July-August, 1895.

² The Anatomy and Relations of the Uterus during the Third Stage of Labour, etc., *Edin. Med. Journ.*, September, 1894.

³ A. Pinard and H. Varnier, *Études d'Anatomie Obstétricale*. G. Steinheil, Paris, 1892.

a patient with triplets who died during the first stage. She suddenly became cyanosed and collapsed. Three living children were extracted by turning. The *post-mortem* examination showed the arteries of the heart almost obliterated by endo-arteritis. The uterus is 13½ inches long and 3½ inches thick. The larger placental mass, which covers the posterior wall for 9½ inches, has two cords passing from it. It is not separated from the uterine wall except for rather less than an inch at its lower border. It is thickened and folded, and bulges at the borders. The placental mass which covers the anterior wall for 5½ inches is that of the third fetus. It is not separated at all, but has its borders projecting.

Three of the other cases show similar conditions—namely, the placenta not separated, but thickened, bulging at the borders, and in some cases folded.

These preparations are of great value as showing how the placenta can adapt itself to the shrinking of its side without separation. They are open, however, to the criticism that they are uteri removed from the body. This is not the case with the two sections given by Pestalozza,⁴ which are of the whole cadaver.

They are the first and only sections we have showing the uterus *in situ* at the commencement of the third stage. The body was frozen, in the one instance in the erect and in the other in the dorsal posture; and this must be borne in mind in studying the sections.

The first of these cases died immediately after the extraction by forceps of a stillborn child. The anteversion of the uterus is exaggerated by the body being frozen in the erect posture and the opening of the thorax. The mass of the uterus, as shown in section, is 8 inches by 4 inches. Of the 4 inches antero-posteriorly, 1 inch is anterior wall, ¼ inch is posterior, and the remaining 2½ inches is the placental mass, there being no space between the placenta and the anterior uterine wall. The placenta "shows no signs of separation through its attachment of 8½ inches."

It is interesting to note the absence of retraction at the placental site, shown by its length (the diameter being not much less than we find before labour) and the thinness of the wall (¾ inch to 1 inch), which contrasts strikingly with the retracted anterior wall (1 inch in thickness.) The membranes are separated over the lower segment, hanging in folds into the vagina, but are still adherent to the rest of the uterus, though not everywhere with equal firmness. The amnion is detached over a considerable area from the chorion.

The condition found in this preparation corresponds in every point to the description which I gave of the condition of the uterus at the commencement of the third stage based on the study of uteri removed by Porro's operation. I quite endorse Pestalozza's statement that the reduction in size of the uterus is here due to retraction, which has not specially affected the placental site; and that a moderate retraction, such as usually accompanies the emptying of the uterus, is not sufficient to initiate separation of the placenta if contractions do not intervene.

The second section is from a case of twins delivered by forceps and turning, in which death was due to congestion of the thyroid. The body was frozen in the dorsal posture, and we find the uterus resting on the spine, not anteverted as in the former case. Its highest point stands 7 inches above the symphysis. The peritoneum descends within the pelvis in front and behind for 1 inch and 4½ inches respectively. The bladder lies behind the pubes. The uterus, containing two placenta, measures 8 inches vertically, and 4½ to 5 inches antero-posteriorly. The placenta are attached, one over the fundus and left half of the uterus, the other over the right half, the anterior and posterior walls, and extending on to the lower segment. From the point where the placenta touch each other on the posterior wall rises the septum of membranes dividing the two sacs, the folds of which fill up the space between the placenta. It passes horizontally forwards, so that the two sacs lie one above the other.

The chief points of interest here are the great diminution in area of the internal surface of the uterus with the non-separation of the placenta even over the lower segment. The thickening and folding of the placental tissue are also of interest as showing how the placenta accommodates itself to the reduction of its site.

⁴ Ernesto Pestalozza, *Anatomia dell'Utero Umano*. Vallardi, Milan.

We may say, then, that at the commencement of the third stage of labour we have the placenta as yet unseparated, although its site may have diminished to one-fourth of the area that it covered in pregnancy, and that the uterus embraces the placental mass on all its sides, there being no uterine cavity in the sense of an empty space. What bearing have these facts on clinical work?

1. They give us an explanation of the well-known clinical fact that patients do not bleed till the third stage has begun. If the old view were correct that separation takes place during the second stage, then there should be bleeding during that stage. But there is none.

2. They give us a *rationale* of the arrest of hæmorrhage. What the exact anatomical changes are round and within the vessels we do not know, but it is evident that the process of retraction means a complete rearrangement of the muscular network through which the vessels pass. This implies constriction of the vessels at various points—in one word, ligature. Now retraction has to a certain extent taken place before the separation of the placenta; we see proof of this in the bulging and folding of the placenta—the results of its accommodating itself to its shrunken site. And this retraction is the safeguard against bleeding, and it precedes separation. The vessels are ligatured before the placenta is amputated.

3. The relation of the uterine wall to the placental mass gives us data for determining the mechanism of separation. Shrinking of the site beyond the limit to which the placenta can follow it—a limit which must be reached during the third stage—will be a factor. But that it is not an important factor is seen in the great reduction of the site that may occur during the second stage without separation. It is worthy of note that two of the frozen sections cited were cases of twins and triplets; which means that before labour there must have been an unusually large uterine cavity with its area extensively covered by placental tissue. If the placenta were ever to separate during the second stage by reason of the diminution of its site, it would surely take place under these conditions. And yet in Pestalozza's case with twin placenta, there is no separation, nor in Pinard and Varnier's triplets, except at the lower margin of the larger placental mass.

Another cause that will operate is the contraction of the uterine wall forcing the placental mass onwards in the direction of least resistance, as it forced the foetal mass onwards during the second stage.

The third stage of labour will thus to a certain extent resemble the second, the uterus now operating on the placenta as it did formerly on the foetus.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

CONTINUOUS DRAINAGE IN ASCITES.

DR. SOUTHEY'S method of treating general anasarca by means of small cannulae inserted under the skin, to which is attached capillary tubing, is well known to the profession. I now send you notes of a case of ascites with dropsy of the lower extremities in which the cannula was dispensed with.

J. C., an army pensioner, aged 65 years, was suffering from ascites and dropsy of the lower extremities. I advised tapping, and he consented, but deferred the operation for a few days. On October 2nd I tapped him with a small trocar and cannula which I generally use for hydrocele, and after drawing off 2 quarts of fluid so as to relieve over-distension I introduced through the cannula some vulcanised india-rubber capillary tubing, and then withdrew the cannula, keeping the tubing *in situ* with a strip of adhesive plaster. In the course of a week 50 pints of fluid passed through the tubing, and all the dropsy disappeared from the lower extremities and abdomen. When the fluid ceased to flow I withdrew the tubing, placed a strip of adhesive plaster over the opening, and it closed at once without any trouble. The patient's appetite improved so that from being only able to take a little brandy and water when I first saw him, in ten

days he was able to take a hearty meal and go about as usual.

I think this method an improvement on the usual mode of procedure, as there is no shock to the system. The patient is perfectly comfortable, being able to move without any inconvenience. The displaced organs gradually assume their normal position, and the tubing need not be removed until all the dropsy has disappeared, and there is therefore no need of a second operation. This method would also be applicable in cases of hydrothorax, the gradual withdrawal of the fluid would give time for the lung to expand, and prevent the tendency to empyema when treated by incision.

Winchester.

F. C. MACNALT, M.A., M.D.

A NOTE ON PARALDEHYDE.

IN order to the better appreciation of the value of paraldehyde it seems desirable to emphasise two points:

1. It is a wonderfully innocuous drug, and where large doses are needed it can be well tolerated.

2. It is an exceedingly efficient calmative and hypnotic.

To illustrate these points the following cases may be cited:

CASE I.—A female, aged 81, melancholic, with suicidal tendency, was treated with paraldehyde after numerous other sedatives had been tried with even injurious effects. This patient, for several months, took more than 1 ounce (once 4 ounces) in the twenty-four hours. The medicament not only gave great relief, but proved a most suitable exhibit, for the patient recovered and remained well for three years.

CASE II.—A female, aged 19, had been epileptic from childhood. About two years ago the fits became more frequent, often occurring two or three times a week. At this time she was anæmic, and also had chronic myringitis. Some improvement followed the treatment of these affections. The anæmia yielded to iron in the form of bromide, which, to a slight degree, beneficially influenced the fits. Some improvement also resulted from change of air. Still the convulsions occurred weekly. One peculiarity about the case was the prolonged aura. When the fit was to happen she felt upon awakening in the morning very ill, and would continue for hours in a most wretched condition. She could not describe any special sensations. Towards midday, or even in the afternoon, the general convulsions seized her. The wretched feelings never passed off without the occurrence of a severe fit. There was no suggestion of a Jacksonian type. In studying this case the question of warding off the fits forced itself upon attention, seeing that so long an interval of warning was given. The idea of producing sleep then suggested itself, but how to avoid the danger of sedatives presented itself as a most serious difficulty. The favourable experiences of paraldehyde made one hope that the obstacle could be avoided. The result was most surprising. After the first dose of 15 minims she was sound asleep in five minutes, and having enjoyed some rest she awoke refreshed, and with all disturbance gone. She has still the threatenings, but even they are not so frequent. She has, on several occasions, had intervals of one month. This fact, coupled with the much better general condition of health, shows that while securing the above-mentioned immense advantage, no bad results accrue from the treatment. For more than a year she has had no fit except on one occasion, when no paraldehyde was in the house, and no one to send for it. She never needs to take more than 30 minims.

Edinburgh.

D. W. AITKEN.

CEPHALIC TETANUS.

IN the BRITISH MEDICAL JOURNAL of February 8th Dr. Trevelyan, of Leeds, reports a case of cephalic tetanus, and in doing so states the rarity of recovery from this disease after the age of 25. The report recalls to me a case which occurred in my practice in June, 1894, in a man 45 years of age, who recovered. Without following all the details of my case, I may say that the first symptoms of tetanus occurred one week after the patient had injured his gum when picking his teeth with a straw. He was a ploughman, and this accident occurred in the stable after returning from dinner. The disease began with a rigor, followed by difficulty in opening his mouth, pains in the back; and on the second day after the seizure by distinct opisthotonos. His temperature varied