

Practical observations on midwifery, and the diseases incident to the puerperal state / By Alfred H. M'Clintock ... and Samuel L. Hardy.

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McClintock, Alfred H. 1821-1881.
Hardy, Samuel L. 1815-1868.

Publication/Creation

Dublin : Hodges and Smith, 1848.

Persistent URL

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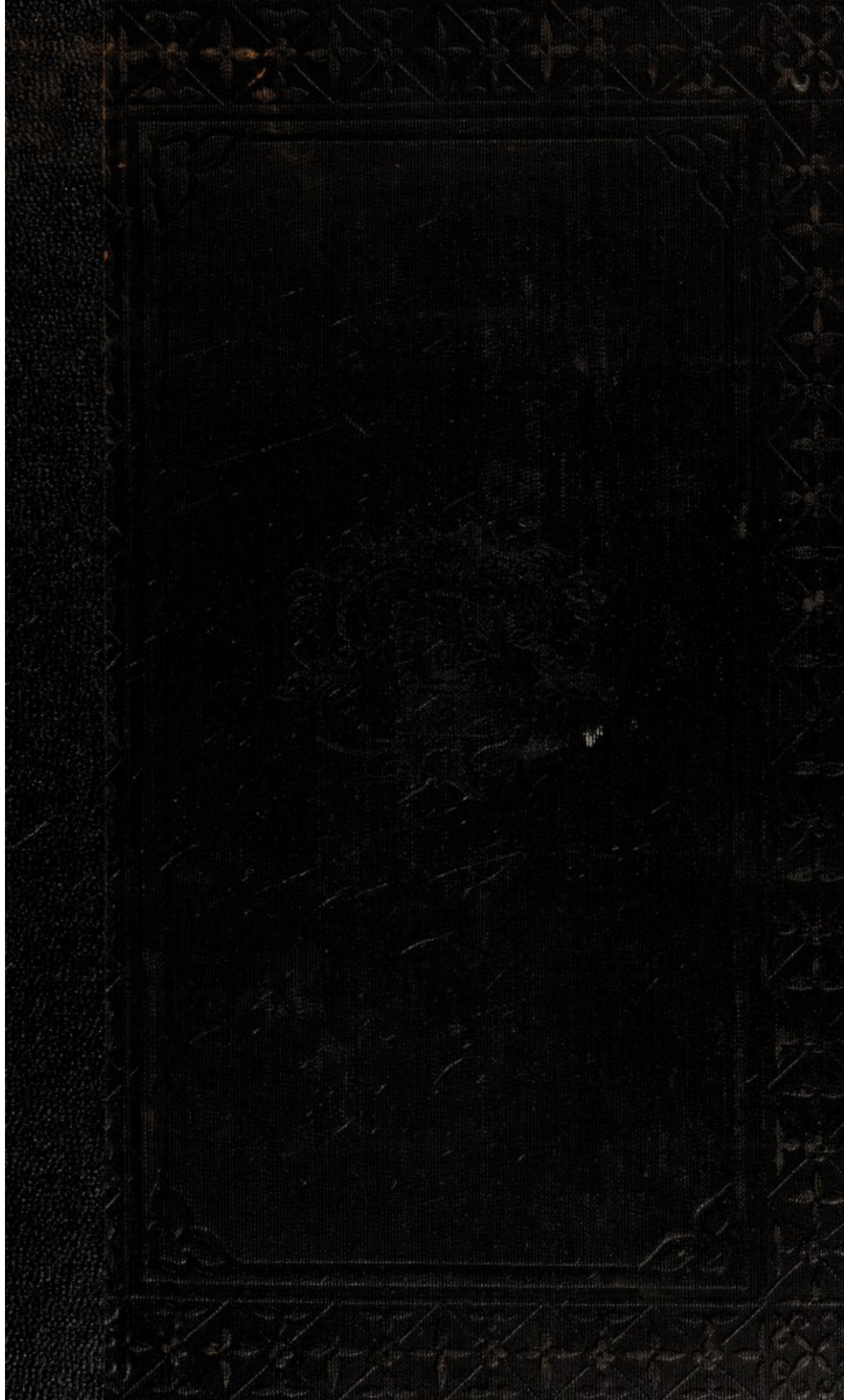
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PRACTICAL OBSERVATIONS
ON
MIDWIFERY.

Chas. C. C. C.

PHYSICAL OBSERVATIONS

MIDWINTER

With the Author's best respects

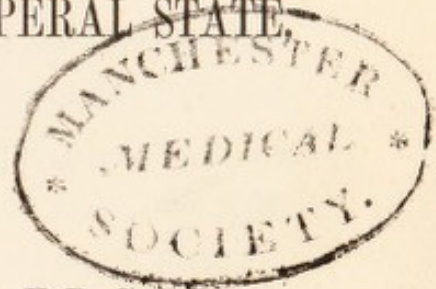
PRACTICAL OBSERVATIONS

ON

MIDWIFERY,

AND THE

DISEASES INCIDENT TO THE PUERPERAL STATE,



BY

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WOMEN AND CHILDREN IN THE SCHOOL OF MEDICINE, PARK-STREET:

AND

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SOCIETY.

"Multum restat adhuc operis, multumque restabit; nec ulli nato post mille sæcula præcludetur
ocasio aliquid adhuc adjiciendi."—SENECA.

DUBLIN:

HODGES AND SMITH, GRAFTON-STREET,

BOOKSELLERS TO THE UNIVERSITY.

MDCCCXLVIII.



DUBLIN :
PRINTED AT THE UNIVERSITY PRESS,
BY M. H. GILL.

P R E F A C E.

THE present work was commenced in the autumn of the year 1845, when Dr. Johnson considerately made the offer of allowing us to publish a Report of the Lying-in Hospital for the three years that we had been connected with the Institution. We gladly accepted his proposal, and at once entered upon the laborious process of arranging and tabulating the cases, &c.; nevertheless, from various contingencies which it would be unnecessary here to mention, the progress of our undertaking was retarded much beyond what we could have expected; however, this delay has been more than compensated for by the increased accuracy and completeness of the whole.

As the value of all clinical and statistical reports entirely depends on their correctness, no time or trouble has been spared in rendering these as truthful and comprehensive as possible, and we can conscientiously state, that full reliance may be placed on their accuracy; for, in addition to the registry-books of the Hospital, we each kept private records of every unusual or interesting case that occurred; moreover, we ourselves made all the calculations and tables, and, therefore, are alone responsible for their exactness.

The observations upon the different subjects relating

to the treatment of parturition and puerperal diseases, &c., may be regarded, so far as they go, as a faithful exposition of the practice of the Hospital under one of its most experienced masters. In the preparation of this part of the work, our main, indeed, we might almost say, exclusive object, was to be as *practical* as possible, avoiding all speculative or unprofitable questions, and estimating the importance of each subject solely by its claims on our attention, and the interest that it possesses, at the *bed-side* of the patient.

In conclusion, we must express our most grateful acknowledgments to Dr. Johnson for the permission to publish this Report, and for the valuable assistance he lent us when preparing it, as well as for the many other favours and unsolicited acts of kindness we have received at his hands, and for which we feel under a sense of deep and lasting obligation.

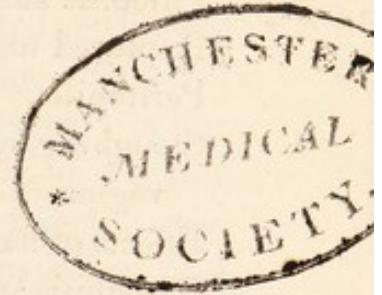
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PRACTICAL OBSERVATIONS,

&c. &c.



INTRODUCTORY REMARKS.

THE Report of the Dublin Lying-in Hospital, embodied in the present work, extends from January 1st, 1842, to January 1st, 1845, during which period *six thousand six hundred and thirty-four* women were delivered in the Institution, and gave birth to *six thousand seven hundred and two children*.

Of the above number of women, those who were pregnant of first children constitute a very large proportion, viz. *two thousand one hundred and twenty-five*, which, in fact, is nearly one-third of the entire. This, we imagine, must represent the primiparous females as forming a greater proportion amongst child-bearing women than would be found really to exist in the population at large; but on this point we cannot speak positively, not having any certain data to guide us.* At all events, it is a circumstance well deserving of notice, and one which should never be overlooked in estimating or comparing the practice of different institutions.†

The total number of deaths that took place within the period specified amounts to *sixty-five*, thus giving an average mortality of *one in a hundred and two*. *Thirty-five* of these deaths occurred

* Dr. Graves, in his review of Dr. Collins's work, says, "that of all the women annually brought to bed in any city or country, so great a proportion as between one-fourth and one-third are always of first children."—*Dub. Med. Jour.*, vol. viii. p. 520.

† We lately heard, from unquestionable authority, of a lying-in hospital in one of the largest towns of the sister kingdom, where, by the rules of the institution, women on their *first labours* are excluded from admission!!

amongst the primiparæ. Subjoined is a list of the causes of death in all these instances, each of which will of course be fully detailed in its proper place.

An asterisk is prefixed to those cases in which a non-puerperal disease was the immediate cause of death.

Phlebitis and arthritis,	24	*Anasarca,	1
Ruptured uterus,	9	*Scarlatina,	1
Peritonitis,	7	Convulsions,	2
Sloughing of uterus and vagina,	6	Mania,	1
Effects of hæmorrhage,	5	*Jaundice,	1
*Bronchitis and pneumonia,	3	*Tumour on bronchus,	1
*Phthisis,	2	*Anomalous diseases,	2

Now if, as is but fair, we deduct the eleven cases, in each of which the cause of death was a strictly non-puerperal disease, and also four others, where the patients were upon admission in a dying state, the average mortality will be reduced to 1 in 132 ; and further, if puerperal fever be regarded as an accidental occurrence, and therefore be excluded, the proportion of deaths will be vastly lessened, viz. to 1 in about 250.

In the Hospital ward-book, from which all our numerical statements are abstracted, an entry is made, after each patient's name, of the number of children that she has had, and their sex. Now by carefully adding up this column, the result is found to be *twenty thousand six hundred and eighty*, which sum, of course, represents the total number of children (exclusive of abortions) that the six thousand six hundred and thirty-four women had given birth to ; and of these, *eleven thousand and thirty-two were boys*, and *nine thousand six hundred and forty-eight were girls*.

Before entering upon the subject of natural labour, we shall lay before the reader the chief facts of interest relating to the children.

The total number of males born in the Hospital, during the three years of this Report, was,

3551, of whom $\left\{ \begin{array}{l} 198 \text{ were dead born, and} \\ 62 \text{ were born putrid.} \end{array} \right.$

And the total number of females amounted to

3151, of whom $\left\{ \begin{array}{l} 127 \text{ were dead born, and} \\ 80 \text{ were born putrid.} \end{array} \right.$

Now this table tends to prove two things : first, that a greater number of male children are lost during labour than of female children,—a fact which is borne out by the concurrent testimony of numerous observers ; and, secondly, that of the number of children who die *in utero*, and before the commencement of the parturient process, there is a great preponderance of females. In order to confirm this by more extended observation, it may be mentioned, that of the 527 putrid children born in the Hospital during Dr. Collins's mastership, 270 were females, and 257 males. To Dr. Simpson, we believe, belongs the merit of having first advanced the proposition, that "of the children that die *in utero*, and before the commencement of labour, as large a proportion are female as male." We would say, a larger proportion are female, and in confirmation refer to our own and Dr. Collins's numerical statements.*

Of the entire number of children, one hundred and eight were premature, viz. :

52 boys, of whom $\left\{ \begin{array}{l} 9 \text{ were dead born, and} \\ 15 \text{ were born putrid.} \end{array} \right.$

56 girls, of whom $\left\{ \begin{array}{l} 9 \text{ were dead born, and} \\ 22 \text{ were born putrid.} \end{array} \right.$

Here again we see that the majority of putrid children is on the side of the females. It would be vain to attempt any physiological explanation of this curious but well-authenticated fact ; we may, however, reasonably suppose, that the vital powers of the female fœtus are more delicately constituted than those of the male, and consequently are more susceptible of any hurtful impression, whether produced directly from without, or communicated through the maternal system.

* For further information on this subject, we would refer the reader to Dr. Simpson's very elaborate memoir "On the Sex of the Child as a Cause of Difficulty and Danger in human Parturition."—Ed. Med. and Surg. Journal, October, 1844.

An interesting, and at the same time a practical, question here arises; namely, "what influence the premature death of the child has upon the duration of pregnancy?" The most satisfactory way by which we can solve this question, is to ascertain, in cases of putrid births, the probable time at which the fœtus ceased to live. Where this is done, it will be very generally found, on close inquiry, that about ten days or a fortnight have elapsed since the period at which the rigor announcing the child's death took place; or, in the absence of this indicative sign, since the mother last felt the fœtal movements. A knowledge of this singular fact (first remarked to us by Dr. Johnson, and which, with a few exceptions, fully accords with our own experience) will often prove of considerable value to the practitioner, in cases of the premature death of the fœtus, by enabling him to qualify his prognosis, and to give such directions for the patient's guidance as the circumstance of a near approaching confinement ought to suggest.*

There is another point connected with premature births, which possesses some interest, and is deserving of attention; viz. that amongst them there occurs a much greater proportion of preternatural presentations,—more especially of the lower extremities,—than takes place at the full term of pregnancy. Thus, of the one hundred and eight premature children, above mentioned, *seventeen* presented with the breech, *twelve* presented footling, and *nine* with the arm; making, in all, *thirty-eight*, thereby giving a proportion of one out of every three cases nearly: whereas, at the full term of gestation, the frequency of preternatural presentations is only about one in thirty; between which and the former there is a vast difference. This would appear to subvert the generally received opinion, that simple gravitation is the cause of the head presenting so much oftener than any other part, at the time of mature labour; for if such were the true explanation, cranial presentations should be as common in premature cases as others, inasmuch as the relative size and

* An exception to the above often occurs in the case of twins, where one becomes blighted. Here it would seem as if nature waived the law spoken of in the text, out of consideration for the living fetus; and that therefore gestation proceeded undisturbed to the full period.

weight of the fœtal head are not less than, than at the full term of utero-gestation.*

According to Mons. P. Dubois, the frequency of presentations of the lower extremities is found to increase in proportion as the expulsion of the fœtus takes place near the early periods of gestation ;† and further, it is stated by M. Cazeaux, as the result of numerous observations in the Maternité at Paris, that in premature births the number of examples of presentation of the lower extremities is more considerable where the fœtus is dead at the time of labour than when living.‡ Though unable to bear out this latter observation by numerical statements, nevertheless we are disposed to regard it as the fact.

* This subject has been discussed at length by M. Dubois, in the third volume of *Mem. Acad. Roy. de Medecine* ; but we do not think he has thrown any light upon the matter, in referring the cause of the head presenting to an "instinctive impulse" implanted in the child. M. Virey, in a very interesting paper (*Rev. Med.* 1833), has shewn that throughout the entire zoological series the head is the part of the young animal which first escapes from the uterus, ovary, or oviduct, &c. This completely overturns the doctrine which ascribes the cause of cranial presentations to the effects of gravity.

† *Memoires de l'Academie Royale de Medecine*, tom. ii. p. 271.

‡ *Traité théoretique et pratique de l'Art des Accouchments*. Paris, 1844.

NATURAL LABOUR.

THIS term we strictly use in the sense given to it by Denman, according to whose definition three conditions are necessary, in order to constitute a natural labour; viz. 1st, that the head present; 2nd, that the labour be not of longer duration than twenty-four hours; and 3rdly, that the delivery be completed without any artificial assistance. The general rules for managing these cases are so well known, and so universally laid down by writers upon Midwifery, that it is unnecessary to enter at any length upon the subject here. Respecting the use of the binder, and the mode of supporting the perinæum, however, a few observations suggest themselves.

In the Hospital, the binder is considered one of the most indispensable articles belonging to the lying-in room, and the highest importance is attached to its use. Where exactness is required, it may be well to have the binder made by measure, taking for its width the distance between the true ribs and the trochanter, and for its length the circumference of the hips, with the addition of a few inches to allow for overlapping. In applying it, the degree of tightness ought to be moderate and uniform throughout, so as to exert an equable pressure on the abdomen, from the epigastrium to the pubes. When put on in this manner, the binder is not only a source of comfort to the patient, but proves positively beneficial, by compressing the uterus, thereby lessening any disposition to relaxation; and by preventing that feeling of debility and faintness (occasioned by the sudden evacuation of the uterus), which always tends to diminish the activity of uterine contraction. It is not to be inferred from this, however, that the binder should be used as a substitute for the pressure of the hand in cases of extreme inertia: by no means; but its presence does not much interfere with our

grasping the uterus, and, if it should do so, the hand may readily be passed underneath, and our object be thus obtained.

It can hardly be questioned but that a proper attention to the binder promotes the favourable separation of the after-birth; and in confirmation of this assertion we would state, that in one instance only, throughout the period comprised by this Report, and for two years previously, had the hand to be passed into the uterus for the removal of a placenta retained from hour-glass contraction; and in a very limited number of cases was it required in consequence of inaction. That this operation (the manual extraction of the placenta) is one which may involve very serious, or even fatal, consequences, every candid practitioner will admit; but in hospital practice particularly are its results to be dreaded. On this account it must be conceded, that any management by which its frequency can be diminished possesses very great advantages, and cannot be too strongly recommended.

In guarding the perinæum, there is an error into which junior practitioners are apt to fall, namely, that, through over-anxiety and apprehension, they commence to support it too soon, whereby it is made dry and hot, and becomes inflamed and rigid; so that, by this injudicious proceeding, the occurrence of the very accident they are so sedulously endeavouring to avert is almost insured. It can scarcely be wondered that this mistake is so often committed, when we find it stated by an author of eminence, "that it may be necessary to occupy many hours in this duty, and even until the hand be numbed and the body cramped." Let it be borne in mind, however, that the dilatation of the soft passages is not a merely mechanical, but a purely vital, process, and consequently, anything which tends to alter or derange the natural and healthy condition of these parts will indispose them for expanding before the descending head of the child. Hence it should be a main object to keep the perinæum as free as possible from inflammation; and for this reason we should abstain from giving any support until the increasing thinness of the part, and the extreme tension of the fourchette, indicate that delivery is near at hand.

When the head begins to press, the perinæum is always in

one or other of two states, and our procedure will have to vary accordingly. If it be dry, thick, and rigid,—or, in other words, if it be inflamed,—it should be very well fomented, for fifteen or twenty minutes, with a large sponge and warm water; and at the same time we should dissuade the patient from using any voluntary expulsive efforts whatever, so as to delay the descent of the child. To insure the performance of this injunction, it is necessary to remove out of her reach anything she could grasp in her hands, or press against with her feet; the extrusion of the fœtus will thus be left to the unaided contractions of the uterus, and time be allowed for the parts to dilate. Under these circumstances, it may be sometimes advisable to retard gently the advance of the head. It will also be found advantageous to keep the woman's thighs nearer to one another, and less flexed on the body, than is usual at this period in ordinary cases; as the perinæum will be thereby relaxed to a certain extent. If the perinæum be in the opposite state, that is, if it be moist and yielding, these precautionary measures will not be needed; and in this case it is only necessary to watch the moment at which to commence giving support. Special care should be taken not to apply our hand in such a manner as might tend, in the least degree, to drag the perinæum backwards.

Cases will occasionally be met with, where no skill or amount of manual dexterity can prevent a laceration from taking place. Of this kind we may be permitted to mention a singular example that occurred in the Hospital. It was the woman's first child, and when the head, which was very large, came to be engaged in the outlet, it caused great distention of the perinæum, as the os externum was unusually small. The perinæum was prolonged over the head, causing the anus to be very much dilated, and through it was visible the posterior surface of the recto-vaginal septum; in this latter a rent had taken place, exposing to view the forehead of the infant. Every care and attention were used to prevent the formidable laceration that was impending; but, in spite of our best endeavours, a terrible rent took place, leaving only a few fibres of the sphincter ani remaining entire. By withholding medicine, her bowels were kept without acting for four days; her diet consisted chiefly of fluids; and her knees

were confined by a bandage. Under this management some little union took place at the posterior part, so that after her recovery she retained the power of the sphincter, and had no incontinence of fæces.

It has been said, that women, delivered under circumstances where they had no assistance, generally escape without laceration. Now this is not universally true, as we ourselves can testify; but supposing that it were, it admits of this easy explanation; namely, that inasmuch as these females are almost always involuntarily subjected to the deprivation we have mentioned, they naturally use their utmost endeavours to retard the birth of the child when they feel the head in the vagina, in the hope of aid reaching them before the critical moment of delivery; and another reason is, that such patients have been spared the ill effects arising from vaginal examinations, &c.

We have been induced to make the preceding observations on guarding the perinæum, from a conviction of the importance of duly attending to this point, particularly in public institutions for relieving lying-in women, and also from having witnessed, on many occasions, the distressing consequences that ensued even upon lacerations that did not involve either the rectum or sphincter. Amongst the humbler and working classes this accident is very apt to entail incurable prolapse of the uterus or bladder; for, when the support of the perinæum is gone, the chance of permanently restoring the displaced organ to its natural situation is small indeed, and the palliative measure of wearing a pessary is almost impracticable. In these cases of prolapsus we believe that the anterior wall of the vagina is the part first to become displaced, and this eventually draws down the uterus.

Respecting the treatment of patients in the ordinary convalescence from natural labour, a few observations will here suffice: of the principal diseases incident to the puerperal state we shall have occasion to speak further on.

It may be truly affirmed, that there is no occasion on which it is so necessary to exercise unremitting watchfulness in order to secure a patient's safe recovery, as during the first few days after parturition; for in the more dangerous forms of disease which are to be apprehended at this time, the efficacy of treat-

ment mainly depends upon the period at which it is commenced,—in other words, on the length of time that has elapsed since the onset of the attack. We do not hesitate to say, that attention to this one particular will have more effect in diminishing the mortality amongst puerperal women than almost anything else.

After-pains do not often require interference, and unless they continue long, or prevent the patient's repose, it is generally considered safer to leave them to nature. Should it, however, be deemed requisite to allay them, two or three grains of calomel, with ten grains of Dover's powder, or a full anodyne, may be given at bed-time; and on the following morning three drachms of castor oil and an equal quantity of spirits of turpentine. If the bowels are free, then of course the calomel and oil and turpentine draught may be omitted. This latter, though a very nauseous dose, is nevertheless an excellent purgative in cases of severe after-pains, and also where there is much flatulent distention of the abdomen. We may just observe, that castor oil is ill suited for patients who have hæmorrhoids, being very apt to produce in them tenesmus and considerable irritation of the rectum. Again, there are some few women who have an unconquerable aversion to this medicine, and if prevailed on to swallow a dose the stomach immediately rejects it. For these and the former the following prescription of Dr. Johnson's will be found to answer admirably well:

℞ Sulph. Magnesiae	ʒ ss.
Carb. „	ʒ ss.
Infusi Sennæ	ʒ iss.
Tinct. „	ʒ ss.
Mannæ opt.	ʒ iii.
Aquæ Cinnamomi	ʒ ii. M.
Ft. mist. Cyath. vinos. pro dosi.	

When the after-pains prove troublesome in the day-time, or, from their severity and long continuance, threaten to merge into inflammation, a turpentine stupe* is generally productive of re-

* In the Hospital this is usually made by wringing a piece of flannel out of hot water, and then sprinkling it liberally with oil of turpentine. This is left on the patient as long

lief; at all events it is a safe measure, and will tend to arrest any inflammatory action.

The diagnosis of after-pains is, generally speaking, an easy matter, but the practitioner may sometimes be led into error from the patient's complaining of pain upon pressure being made over the uterus; whereas, in point of fact, this tenderness arises merely from his happening to feel the uterus during its contraction, or from the stimulus of the hand exciting an after-pain. To treat after-pains for inflammation is only trifling, when compared with the danger of mistaking inflammation for after-pains,—an error that might involve the life of the patient. There is one circumstance which usually exerts considerable influence upon the production and severity of after-pains, and this is, the length of the second stage of the labour; for if from any cause this has been tedious, the subsequent contractions of the uterus will generally be proportionately less painful; and so, conversely, if the second stage has been precipitate, after-pains are more likely to follow or be more severe.

An observation has been made by the late Dr. Joseph Clarke,* to the effect, that those females who suffer much from after-pains usually have painful menstruation. This is a curious coincidence, the truth of which we have frequently verified, and we would extend its application to those cases where they occur with first children. In these instances; which are rare, it is most necessary to keep a vigilant eye over the patient, and to view the after-pains with much suspicion, as they are very apt to run into actual inflammation, or, perhaps, to speak more correctly, to be induced by inflammation.

On three or four occasions we have known cramps in the legs to have evidently taken the place of after-pains, and in fact to have completely supplanted them. This opinion was not taken up without sufficient evidence, as may be seen from the following facts. With each of these women the cramps came on soon after labour, and continued for some hours, during which period, and subse-

as she can bear it, which is seldom more than ten or fifteen minutes. When a very active stupe is required, the turpentine, previously heated, is put on dry warmed flannel and then applied to the abdomen.

* Transactions of the Association of the College of Physicians, Dublin, vol. i. p. 371.

Ind

*not
For*

*near
E*

quently, she was entirely free from all uterine pain, although she had suffered from after-pains in her previous confinement; 2ndly, the discharge of coagula from the uterus shewed that there existed adequate cause for the production of after-pains; and 3rdly, the cramps were materially lessened or removed by the same treatment as is ordinarily successful in suspending after-pains.

The practice of putting the child to the breast some hours after delivery, though salutary in its tendency, is not encouraged where there exists a disposition to sore nipples, or where the woman has suffered from this cause after her previous confinements. In these cases the infant is withheld altogether till after the secretion of the milk, and until the breast has become "free," as it is appropriately termed; if applied sooner, under the idea of drawing out the nipple, the consequence most likely to ensue is, that the latter will become excoriated, from the repeated ineffectual attempts of the child to procure nourishment, and this excoriation, in its turn, may give rise to inflammation of the gland. For the same reason, it is considered objectionable to let the child draw the breasts whilst they are distended and painful from the first secretion of the milk, and when as yet it does not flow freely through the lactiferous tubes. This tumid and painful state is best relieved by rubbing the breast very well with warm oil, and if any febrile excitement attend (as is not uncommon), small and frequently repeated doses of tartar emetic are given, and the bowels freed.* With respect to rubbing the breasts, some little caution is necessary not to do so till they are fully dis-

* The use of tartarized antimony in these cases was first recommended, we believe, by Dr Beatty (Dub. Jour. vol. iv.) In milk fever the degree of vascular excitement is sometimes very great. Of this the following case was a remarkable example. A pale, rather delicate-looking Scotchwoman was confined in the Hospital, of her third child, Nov. 5, 1845. She had a very easy labour, and some hæmorrhage followed the placenta. She went on well till the evening of the third day, when, after a slight rigor, depending on the secretion of the milk, the pulse rose to 146, accompanied, at the same time, by most violent action of the heart, insomuch that its pulsations caused the whole chest to vibrate, and were visible at a considerable distance from the bed. At this time the breasts were hard and tense. She seemed oppressed, but made no complaint. Large doses of antimonial solution subdued this inordinate action of the heart, but some quickness of pulse remained for a few days. She recovered perfectly, though rather slowly, in consequence of the above attack.

tended, as, if done earlier, injurious consequences may result,—the secretion being altogether suspended, or, together with this, symptoms of inflammatory action in the uterus manifesting themselves. It would appear as if the tumefaction of the gland arose at first from an increased determination of blood, and subsequently from the detention of the milk in the lactiferous ducts and tubes. If, after rubbing the breasts, and promoting in this way the flow of milk, they should continue hard and tense, benefit is derived from keeping them enveloped in a “cere-cloth,” which is nothing more than a piece of soft linen spread with a cerate composed of wax and olive oil melted together, and having in the centre a hole cut for the nipple.

This application acts like a perpetual stupe, and keeps the breast soft and relaxed. Where the patient is not to nurse, and is therefore desirous to put back the milk, the cere-cloth answers very well as an auxiliary to the other measures for effecting this object, but should be kept constantly applied.

We feel persuaded that, by attention to these simple rules, many cases of mammary abscess may be prevented; in confirmation of which it may be mentioned, that only two cases of suppuration in the breast occurred in the Hospital during the three years of our Report; and further, that Dr. Johnson, in his private practice, has always pursued the same plan, and with like success.

The various forms of sore nipples, with their appropriate treatment, and a description of the numerous contrivances for preventing or curing them, are subjects of much interest to the practitioner, but to enter upon them fully would occupy too large a share of our space. We must, therefore, content ourselves with a few passing remarks.

Sore nipples may not only incapacitate a woman from nursing,—a deprivation in itself often sufficiently grievous,—but they may, as we have before observed, give rise to mammary abscess, from an extension of the inflammation backwards, along the ducts, to the substance of the gland. This, in point of fact, is the great danger to be apprehended, and every other consideration should give way to it.

When there is reason to dread such a result, the child is entirely withheld from the affected breast, which is kept soft by

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rubbing, and if the nipple itself appear to be the seat of any inflammation, a bread and water poultice is applied to it.

Of the various topical applications for sore nipples employed in this Hospital, it may be well to mention two or three whose value has been established by long experience.

Amongst these the tincture of catechu holds a high place, and has been found a very excellent astringent; like the other remedies of this class, it is best adapted for the simply excoriated or abraded nipple. Nearly similar to it is the solution of pure tannin, so highly recommended by Mr. Druitt.* It is made by dissolving five grains in an ounce of distilled water. We have not observed it to possess any superiority over the catechu, except in being more cleanly. The following is a favourite lotion with Dr. Johnson, who has been in the habit of using it for many years:

℞ Sub. Borat. Sodæ ʒii.
 Cretæ precipitat. ʒi.
 Spiritûs Vini,
 Aquæ Rosæ, āā ʒiii. M.
 Fiat lotio.

This may be applied alternately with the following ointment, or the latter may be used alone:

℞ Ceræ Albæ ʒiv. ss.
 Ol. Amygdal. dulc. ʒi.
 Mellis despumat. ʒss.
 Dissolve ope caloris, dein adde gradatim,
 Bals. Peruviani ʒii. ss. M.
 Fiat unguentum.

In some cases we have seen benefit result from the use of tincture of galls and compound tincture of benzoin (friar's balsam), in equal proportions.

It is always well to have in mind a number of these different preparations, for it not unfrequently happens that one will answer our purpose when others have failed. For fissured nipples some authors strongly advise the application of solid nitrate of silver;

* Braithwaite's Retrospect, vol. x.

but our experience does not permit us to speak of it. Dr. Johnson thinks it is sometimes a good remedy in such cases, at a remote period from delivery; but that during the puerperal state its use is not advantageous, as it is apt to be followed by mammary abscess.

Several cases of *mammary abscess* are annually admitted into the chronic ward, all of them poor women who have been confined at home, or who have been exposed to cold and hardship on leaving the Hospital. As being connected with our present subject, we may briefly describe the treatment which has been generally pursued in these cases, and we can truly say, with the most satisfactory results.

When suppuration seems inevitable, the breast is kept constantly poulticed; and the matter is permitted to come very near the surface,—almost until it begins to point—before using the lancet. By this means a permanently free escape to the contents of the abscess will be secured, and thus the liability to the formation of sinuses in some measure avoided. On the other hand, if a spontaneous opening be allowed to form, besides proving a more tedious mode of relief, it invariably occasions a greater or less destruction of the integument, the reparation of which, by granulation and cicatrization, very much protracts the cure. In making the opening (which should be a free one), it has always been deemed advisable to have it, if possible, outside the areola, so as to prevent that retraction of the nipple which is sure to follow, when, through necessity or ignorance, this rule is departed from. Under ordinary treatment the discharge becomes less, and all inflammatory action subsides, in the course of some days, and then it is that the warm spirit dressing answers very well, by promoting the contraction of the abscess, and removing that indolent and relaxed condition which the poulticing produces in the granulations and adjacent integument. The strength at which it is used is, one part of spirits of wine and six or eight parts of water. A piece of lint is moistened with this lotion previously warmed, and is then applied to the breast, a very small bit of simple dressing being interposed over the orifice of the abscess.

At a more advanced period, when all tenderness and inflam-

mation have completely subsided, but the abscess continues to discharge, the breast is strapped with adhesive plaster (precisely in the same way as is practised in hernia humoralis). We have found this to be a very safe and effectual means for expediting the obliteration of the cavity of the abscess. The mode of applying the plaster is as follows: one long, narrow strip is first put tolerably tight round the base of the breast, so as partly to insulate the gland; other strips are then successively applied in such a manner as to envelope the whole, and exert upon it a moderate degree of compression; lastly, a small aperture, corresponding to that of the abscess, is cut to allow exit to the discharge. It is generally necessary, in two or three days, to renew the application of the plaster, as it becomes loose and displaced.

This is just a mere sketch of the topical treatment which, in a large class of cases, has been found to answer admirably well.*

The total number of natural cases in the three years was *five thousand eight hundred and fifty-two*, out of which *seventeen hundred and fifty-two* were women pregnant of first children. This proportion of natural cases may appear small, compared with the estimates of Clarke, Bland, Leake, or Smellie; but we think the discrepancy may be explained by our having rigidly adhered to the definition of natural labour, and having excluded from under this head every case, irrespective of the length of the labour, where there was any complication whatever. Sixteen women, seven of whom were primiparæ, died amongst the natural cases, *viz.* *four* of uterine phlebitis, *two* of peritonitis, *two* of phthisis, *one* from mania, *one* of arthritis, *one* of sloughing of the uterus and vagina, *one* of laceration of the peritonæal coat of the uterus, *one* of pneumonia and bronchitis, *one* of scarlatina, *one* of anasarca, and *one* from a tumour compressing the trachea. The

* A somewhat similar mode of treatment was successfully adopted in a case recorded in the Medical Gazette, May 31, 1844, by Mr. Phillips. Part of the interest in this case arose from the circumstance of the patient being only in the fifth month of pregnancy. We have seen one case where abscesses formed in both breasts in the fourth month of a first pregnancy, after the usual symptoms of phlegmonous inflammation, and three or four openings formed in each. We saw also another case of this kind, but in it the supuration took place in the eighth month of gestation, and matter was still discharging when the woman was delivered at the full time; whereas, in the former case, nothing remained but the cicatrices.

histories of these cases will be related further on. We shall divide all the natural labours into four classes, and give the number of cases that occurred in each; thus:

3882	were delivered under	6 hours,	and of these	716	were primiparæ.
1398	„	„	between 6 & 12 hrs.	„	„
426	„	„	„ 12 & 18 „	„	„
146	„	„	„ 18 & 24 „	„	„
				640	„
				283	„
				113	„

In order to exhibit the relative frequency of the different varieties of natural labour, the following Table has been drawn up, which shews how many cases of each variety occurred in each of the above classes respectively:

Class.	Face Presentations	Face to Pubis.	Head and Hand.
1	4	9	3
2	6	3	3
3	3	2	2
4	1	1	0
Totals,	14	15	8

We shall now proceed to detail such of the cases of natural labour as are deserving of particular notice.

*CASE I.—Rent in peritoneal Coat of Uterus; Death; Autopsy.**

E. B., ætat. 30, came into the Lying-in Hospital at 8 P. M. on the 9th December, 1843, in labour of her third child. On her way to the Hospital she was thrown off a car, and felt severely hurt at the time, but did not seem to suffer from it during her labour, which lasted for two hours only, when she was delivered of a living female child. The placenta came off favourably, and without any hæmorrhage. On the following day, at 8 A. M. (about ten hours from the time of delivery), she had a rigor, followed by pain and tenderness in the uterine region, with vomit-

* In strict arrangement this case should, perhaps, have been introduced amongst those of rupture of the uterus, but as the labour was perfectly natural, we thought it as well to insert it here.

ing. The usual treatment for inflammation of the uterus was adopted, viz., general and local bleeding, mercury, and the diligent application of stupes to the abdomen, &c., but without avail. The symptoms progressed from bad to worse, till the morning of the 12th, when she expired,—it being then fifty-six hours from the time of her delivery. The lochial discharge continued healthy throughout.

Autopsy.—The uterus was of the size natural at this period after delivery, but on its anterior wall was a transverse rent in the peritonæal investment of the organ. Near the fundus a similar laceration existed, about two-thirds of an inch in length, and extending into the muscular structure. The parietal layer of the peritonæum in front of the uterus was inflamed. Low down on the back of the uterus were also found two transverse tears in the serous membrane, resembling those on the anterior wall. There was a very small quantity of brownish serum in the pelvis. No other morbid appearance was discovered.

That the laceration of the serous coat of the uterus was caused by external violence in this case, there can be little doubt; but it is surprising that, until some hours after delivery, there should have been no urgent symptom present to lead one to suspect the existence of so grave an injury. Several cases of a similar nature to this are now on record, the first of which was published by Sir Charles M. Clarke.* The present case bears a great resemblance in one particular to that related by Dr. Ramsbotham,† namely, in the obscurity of the symptoms during labour; but it differs from all those to which we have alluded, by the absence of any bloody effusion in the peritonæal cavity. In Sir C. Clarke's case the woman died before labour set in, but in all the other instances delivery was accomplished by the natural efforts.

CASE II.—*Uterine Phlebitis; Death; Autopsy.*

B. C., ætat. 28, delivered March 7, 1843, of her first child, a boy alive, after twenty hours' labour. She went on very well till the seventh day, when she got a rigor, followed by temporary

* Transactions for the Improvement of Medical and Surgical Knowledge, vol. iii.

† Practical Observations, Case 86.

acceleration of pulse. On the evening of the ninth day, and morning of the tenth, she had slight rigors, and the pulse, which had been 96, rose, after the last rigor, to 132. No pain or tenderness complained of.

Mercurial inunction.

Thirteenth day. Slept for some hours after an anodyne draught; pulse 116, and has a sharp, vibrating feel, though, at the same time, is feeble; the milk has receded, and there is no lochial discharge; no pain on pressure in any situation.

Fourteenth day. Pulse 108, and of same character; tendency to diarrhœa; lochia pale and scanty; there is a dusky red blush on the left elbow which is the seat of an obtuse pain, and is very tender.

Vagina to be syringed.
 Pulv. Doveri gr. iii.
 Pulv. Digitalis gr. i. ter o. d.
 Ung. Hydrarg. n. et m.
 Haust. Anodyn. h. s.

Fifteenth day. Pulse 104; tongue red and glazed; bowels moved twice in the night; the blush on the arm has extended up and down, and is accompanied with more pain and swelling.

Acid. Prussici ℥ii.
 Guttæ nigræ ℥iv. ter o. d.

Seventeenth day. Pulse 120; disposition to diarrhœa; considerable pain and tenderness in the left iliac region; the countenance has assumed that peculiar hue and aspect so characteristic of phlebotic inflammation; arm greatly swollen, and very painful; no mercurial action on the system; she has at times a sensation of slight chilliness or rigor creeping over her.

Nineteenth day. Seems in some degree improved; pulse 108; bowels not moved during the night (she got an anodyne draught); the pain in the abdomen has greatly subsided; expression of countenance better. At evening visit the pulse was 120; and the bowels had been five times affected during the day. As fluctuation was very perceptible in the arm, an incision was made into the

swelling, and about two ounces of brown, offensive matter flowed out: through this liquid were seen oily particles, resembling synovia. Some fœtid gas also escaped. From this time forward she gradually sunk, in spite of everything that could be done. These were her prominent symptoms: a very rapid pulse, generally above 130; profuse perspirations; occasional low delirium during sleep, but when awake her intelligence was unimpaired; failure of the bodily strength; sordes on the teeth, with a dry, brown tongue; diarrhœa and thirst. She expired on the morning of the seventeenth day from the first rigor.

Autopsy.—Some slight traces of recent peritonitis. Uterus of natural size; a perforation existed at its left side, from which had flowed out some puriform matter; and by this opening a communication was established between the uterine and peritonæal cavities. The uterine sinuses in the neighbourhood of this perforation contained pus. The interior of the uterus and vagina was lined with a kind of membrane, of a bluish colour. No pus in any of the pelvic veins. The ovaria were softened in structure. The cellular tissue of the arm in the affected part was found in a state of slough, and the muscles also were partly destroyed and sloughy, but the elbow-joint was healthy.

In the commencement this case was rather obscure in its nature, but, as it progressed, the symptoms of phlebitis gradually became developed, and ultimately assumed so striking a character as to remove all doubt respecting the diagnosis. The perforation in the uterus was a rather singular occurrence, but easily explicable. It must have taken place at no distant period before death, as there were but very slight marks of peritonæal inflammation.

CASE III.—*Uterine Phlebitis; Death; Autopsy.*

M. M., ætat. 24, fourth labour, was delivered of a live male child, after seven hours' illness, August 31, 1844. On the third day she complained of headach and thirst: pulse 116; lochia abundant; uterus tender on pressure. She was bled, and put on the use of mercury. Under this treatment the symptoms were relieved, and the gums were slightly affected by the mercury. On

the seventh day she had diarrhœa, and in each axilla and groin, where the ointment had been rubbed, there was a dusky red blush, scattered over which was an eruption of small vesicles. On the twelfth day these were desquamating. The pulse, which had been 100, rose on the thirteenth day to 130. Along with this there was diarrhœa, suppression of the lochia, occasional delirium, and cough, with much mucous rale in the chest, and difficult expectoration. The pulmonary affection increased, and the respiration became still more embarrassed; and on the morning of the sixteenth day she expired at 8 o'clock.

Autopsy.—Peritonæum healthy throughout its entire extent. Uterus large, but not softened in structure; internally it presented a normal appearance. Upon making an incision into the left broad ligament, near its insertion into the uterus, puriform matter flowed out from the orifices of divided veins. The lungs were very much engorged with blood posteriorly. The bronchial tubes were loaded with reddish mucus, and their lining membrane was swollen and minutely injected with blood.

The vesicular eruption noticed in this case we have frequently seen where mercurial frictions were used. At first it presented the character of numerous small vesicles interspersed over a patch of integument of a deep red colour. The vesicles gradually increased in size, assumed a milky appearance, and ultimately burst, and the cuticle exfoliated. It always got well by leaving off the frictions in the affected parts. Most of these patients were suffering from gastric and intestinal irritation at the time of the appearance of the eruption. For the last few days prior to her decease the pulmonary symptoms were the most prominent and distressing. This we have observed in many other cases of uterine phlebitis.

CASE IV.—*Suspected uterine Phlebitis; Death.*

E. K., ætat. 26, first pregnancy. This woman was delivered of a female child on the 30th June, 1843, after an easy labour of eight hours' duration. She was attacked with symptoms of phlebitis, and died on the fourth day. As a *post mortem* examination was not obtained, her disease remains uncertain.

CASE V.—*Uterine Phlebitis; Death; Autopsy.*

M. W., ætat. 33, delivered May 13, 1842, of her fifth child, after three hours' illness. She went on well, apparently, until the third day, when pain in the lower belly came on, the lochia ceased, and the milk receded. She was bled, and put on the use of mercury. As the symptoms on the following day were not improved, it was thought necessary to repeat the venesection.

Fifth day. The acute pain has subsided, but the countenance looks much collapsed; pulse 136, and feeble; great restlessness; bowels frequently affected; cramps in the legs; no mercurial action on the system. Altogether, nothing can be more unpromising than her state.

Blister to abdomen.

Sixth day. She died this morning.

Autopsy, ten Hours after Death.—A small quantity of serous effusion in the sac of the peritonæum; but this membrane does not seem inflamed. Intestines much distended with flatus. Uterus large; upon cutting through the broad ligaments, pus oozed out very plentifully from the divided veins. Right ovary large and softened.

CASE VI—*Puerperal Arthritis; Death; Autopsy.*

E. R., ætat. 32, delivered of her sixth child, January 3rd, 1842, after four hours' labour. Within the first few days after delivery she had a slight attack of uterine inflammation, from which, however, she apparently recovered, under the usual treatment, and was removed to the convalescent ward, preparatory to her going home.

On the evening of the eleventh day she complained of some slight uneasiness in the left shoulder-joint.

Twelfth day. Has had a restless night, and suffered from pains in the backs of the legs, and also in the course of the femoral vein; the shoulder is more stiff and painful, so that the least motion is productive of uneasiness. Some diarrhœa is present.

Hirud. x. to shoulder, followed by a cataplasm.

Pulv. Doveri, gr. v. ter. o. d.

Pulv. Opii, gr. i. horâ somni.

Fourteenth day. Shoulder greatly relieved ; pulse 110 ; tongue furred ; diarrhœa still continues troublesome. Small mercurial frictions, and occasional opiates to control the diarrhœa and procure sleep, were ordered.

January 30th. The diarrhœa continues, having proved rebellious to every plan of treatment ; the pain in the shoulder has nearly quite subsided, but she feels considerable pain in her back. This day she was ordered small doses of Griffith's mixture, with peppermint water, three times daily, and an opiate at night.

February 3rd. The purging still goes on ; no pain whatever complained of ; is very low and weak, requiring broth and wine. Small doses of opium and quinine were now substituted for the other medicine.

February 5th. Some slight pain in the left shoulder ; is considerably weaker, and more reduced ; pulse 126, and very feeble. Her strength gradually declined, and she died on the 8th, apparently worn out by the protracted diarrhœa.

Autopsy.—Peritonæum healthy. Uterus about the natural size, and presented no morbid appearance whatever. Extensive and deep ulceration of the rectum and sigmoid flexure of colon : in the former bowel some of the ulcers were as large as a shilling. The superior extremity of the left humerus was very much eroded external to the joint, beneath the deltoid, in which situation also there was a quantity of purulent matter deposited. No pus in the cavity of the joint, but the synovial membrane seemed generally dark in colour, particularly on the head of the bone.

In reviewing the history of this case, an interesting question presents itself for solution, viz., was the arthritis directly consequent upon the attack of uterine inflammation which took place within the first few days after delivery ? Our own views respecting the nature of puerperal fever lead us to answer this question in the affirmative ; nor do we think that the healthy state of the uterus, at the time of her death, is any argument against the supposition. That she should have apparently recovered so completely from the primary attack, before the development of the secondary affections of the joint, cellular tissue, and intestines, is remarkable, and highly important, although not unexampled. We candidly confess, however, that it is quite possible there may have

been present some lurking symptoms, such as an experienced eye would detect, but which at the time escaped our observation, or did not seem of sufficient importance to be noted in our report of the case. At all events, this practical inference is to be drawn from the above history,—that, after attacks of puerperal uterine inflammation, the patient should be closely watched for some time, and that the practitioner should be very slow in remitting his discipline, or allowing her any indulgence.

CASE VII.—*Puerperal Arthritis; Recovery.*

M. S., ætat. 25, fourth pregnancy, was delivered of a living female child, November 19, 1843, after a labour of only half an hour's duration. On the second day, at half past 11 P. M., she had a rigor, to which succeeded uterine pain. Early on the following morning the pulse was 132, and pain still present in the uterus. She was now bled to faintness, and ordered pills of mercury and opium every four hours. On the fourth day she was much improved: the only remaining pain was referred to the left side of the uterus, and over this part twenty leeches were applied. Pulse in the morning 132, and in the evening 116.

Fifth day. All pains now gone; pulse 108; mouth sore from the mercury. On the knuckle of little finger of left hand is a deep red blush, and the joint is painful on motion. By leeching and poulticing, the pain was, in some measure, removed. On the thirteenth day, as fluctuation was evident, an opening was made, and a quantity of unhealthy pus discharged. For some time before this it was necessary to administer opiates at bed-time, as well on account of the pain as the diarrhœa, which was constantly present. A discharge of thin matter continued for some time from the wound; but by the 6th December (her nineteenth day) she was perfectly recovered, and able to go home. We saw this woman two months after she had quitted the Hospital, and the joint that had been affected (the metatarso-phalangeal) was then stiff, and seemed likely to continue so. In every other respect she was remarkably well.

The termination of this case must be considered as very for-

tunate for the patient, when compared with those of puerperal arthritis generally. It is worthy of remark, that all pain left the uterus from the time the finger became affected. To find the knuckle attacked with this disease is uncommonly rare. According to Dugés, the order of frequency in which the several joints are affected with puerperal arthritis, is as follows: first, the hip; next, the elbow; then the knee, foot, metacarpus; and lastly, the shoulder. Dr. Ferguson has found the elbow and knee more commonly affected than the hip: this agrees with our experience in the Lying-in Hospital, where, during the last five years, there have been several instances of these joints (knee and elbow) becoming affected, and but one in which the hip was engaged.

We avail ourselves of the opportunity afforded by the consideration of the preceding cases, to offer some general observations upon that most intractable disease,—

UTERINE PHLEBITIS.

The facts that have been of late years ascertained relative to the phenomena of venous inflammation, have very materially tended to dispel the obscurity in which the pathology of puerperal fever was involved, and to remove most of the perplexing difficulties by which its study was retarded. Indeed the immense accessions that have been made to our knowledge upon the subject of phlebitis, through the labours of Hunter, Arnott, Cruveilhier, Dance, Lee, and others, have shed great light upon many other diseases besides those connected with the puerperal state. In proof of this we need only refer to the so-called malignant intermittents consequent upon wounds and surgical operations,—to the “lobular inflammations and abscesses” that occasionally follow the same,—to certain typhoid conditions, and the like. We think there can be no doubt whatever but that very many of the cases described by the older authors as instances of puerperal fever without any local inflammation, were nothing more or less than examples of uterine phlebitis, in which the lesion of the veins was overlooked or disregarded.

There are many reasons why this disease should have strong claims on our attentive consideration. In the first place, it has



been of late years a very,—perhaps the most,—frequent cause of puerperal fever, and it may be safely asserted, that in the majority of patients who die of this complaint, phlebotic inflammation, or its peculiar consequences, are the principal organic lesions discoverable after death, as may be seen by reference to the works of M. Tonellé and Dr. Lee, upon the pathology of puerperal fever.* In the second place, we receive a great stimulus to the prosecution of this inquiry, from the deplorable fatality of phlebitis attacking women in child-bed. And lastly, the very insidious and latent manner in which it sometimes makes its invasion furnishes us with an additional reason for studying it with minute accuracy, so as to be able to recognise the various aspects and phases under which it may present itself to the physician, and the several symptoms, or groups of symptoms, to which it may give rise under different circumstances. It is only by such a course as this we can be prepared to detect it in the incipient stage, at which period alone our treatment can be of much or any avail; for, of all the forms of puerperal fever, we must, more especially in this, act up to the maxim, “*venienti occurrere morbo,*” if we would give our patient a reasonable chance of recovery.

We can have no difficulty in understanding why there should be this preponderance of the cases of venous inflammation over the other varieties of childbed fever, when we consider the state in which the uterus is left by the act of parturition. The occurrence of phlebitis in any part of the body is referrible to two causes, which may operate conjointly or singly, viz., mechanical injury of the vessel, or the contact of some noxious substance. Hence arises the question, is either, or both, of these conditions present in the puerperal state? In reply to this query, we cannot do better than quote the words of Dr. Ferguson: “It will, I think, be acknowledged, that the uterus, after child-birth, combines both these conditions. All the uterine veins and arteries have been torn from the placenta, and they form a part of a large wound, and are, therefore, bathed in all the secretions which necessarily

* Professor Levy, of Copenhagen, in a conversation which we had with him some time ago, expressed a similar opinion respecting the predominance of uterine phlebitis over the other lesions occurring in puerperal fever.

take place while the wound is healing. In this respect the uterus presents an exact analogy to an amputated stump,—and it is, therefore, not surprising, that the secondary evils of amputation should be similar to those of the puerperal state.” When we reflect that the above conditions exist in a more or less marked degree after every labour, it becomes a matter of surprise and admiration, why uterine phlebitis should not occur much oftener than it really does: in fact, the number of those whom it attacks bears so small a proportion to the number of deliveries, as to justify our concluding, that the intervention of some other cause or influence is necessary for its production. To attempt an enumeration of all these determining causes would, perhaps, be undertaking too much, in the present state of our knowledge, as some of them are of such a nature as to render their recognition quite impossible. Moreover, it not unfrequently happens, that what in one instance is sufficient to give rise to the disease will in another prove inadequate, owing to counteracting influences, whose power and mode of operation we can never expect either to measure or ascertain.

The following are, we think, the principal causes or circumstances which most frequently determine, or, in ordinary language, predispose to the development of puerperal phlebitis:

1. Mechanical injury of any kind inflicted on the uterus, as by protracted labour, by instruments, or by the hand introduced into its cavity. There is hardly any operation so much to be dreaded, on account of its after-consequences, as that required for the extraction of a morbidly adherent placenta. In private practice this may not appear so striking, but in hospital practice its truth is beyond question. Dr. Lee seems disposed to attribute the production of metro-phlebitis to mechanical injury of some sort, sustained by the uterus during labour.

2. The detention of a portion of the after-birth or membranes. This gives rise to a foul discharge, which may prove a source of irritation to the veins, either by absorption, or by direct contact with their patent extremities on the internal surface of the uterus. The absorption of some morbid animal matter being the cause of puerperal fever is no new idea. Mr. Charles White, of Manchester, in his “Treatise on the Management of Pregnant and Lying-

in Women," speaks of this as a fertile source of child-bed fevers; and, by way of explanation, adds, "that the womb is an organ, of all others, the most favourably formed to absorb."*

3. Hæmorrhage. It is a well-established physiological fact, that the loss of blood promotes absorption; hence we can, in some measure, understand how flooding, at the time of labour, operates in rendering women obnoxious to attacks of puerperal phlebitis. The comparatively uncontracted state of the uterus, which accompanies and follows profuse losses in the third stage of labour, is a circumstance which also tends to the same result, by leaving the mouths of the veins on the raw, internal surface of the organ incompletely closed.—(*Hasse.*) Denman, with his usual acuteness, observes, in speaking of puerperal fever, "that those women who had lost much blood at the time of delivery, were more liable to the disease, and that it was more commonly fatal to them." A nearly similar remark has been made by Legallois and Dr. Ferguson. The great mortality amongst cases of placenta prævia, where turning has been performed, is well known, and, in a large proportion of instances, is owing to the supervention of phlebitis, whose production here may be ascribed to the joint effect of the mechanical injury arising from the introduction of the hand, and the immoderate loss of blood. Dr. Merriman states, "that he has known the phlegmasia dolens to follow this species of labour on many occasions."† The close connexion subsisting between this complaint and the one under consideration, is generally acknowledged.

4. Epidemic influence. No reasonable doubt can be entertained as to the sufficiency of this cause to call into action morbid derangements, which otherwise would not have taken place. Thus, during the prevalence of an epidemic, a patient will be attacked with the disease, under circumstances which, in its absence, would not have been attended with the slightest unfavourable result. The same state of the atmosphere that gives rise to erysipelas would seem to favour very much the development of puerperal fever generally, and this form in particular. Thus, during the last epidemic of puerperal fever in the Dublin

* Fifth edit., p. 391, London, 1791.

† Synopsis, third edit., p. 126.

Lying-in Hospital (a brief account of which will be found in the twenty-seventh volume of the Dublin Medical Journal), erysipelas and diffuse inflammation were prevailing to a frightful extent in most of the surgical hospitals of this city, insomuch that it was with extreme reluctance any operation was undertaken. In connexion with this, we may be permitted to advert to two papers in the Provincial Medical Journal, one by Mr. Storrs of Doncaster, and the other by Mr. Ebrington of Birmingham, and to another by Dr. Peddy in the Northern Journal of Medicine, all of which go to establish the fact, that puerperal fever of some form (most frequently the phlebotic) may be induced by the fomes, or infection, conveyed from erysipelas.* This affinity or connexion between the two diseases appears to have been recognised by some of the older writers (Penteau, Drs. Home, Young, Lowder, &c.), from their calling puerperal fever "an epidemic erysipelas of the peritonæum." In the year 1821, Dr. J. C. Douglas's paper on this malady was written, and he therein observes: "The contagious puerperal fever of Dublin is, I venture to pronounce, nothing more or less than a malignant fever of a typhoid character, accompanied with an erysipelatous inflammation of the peritonæal covering of the stomach, intestines, and other abdominal viscera."†

Notwithstanding all that has been said or written to the contrary, we think that the contagiousness,—or, to use the more explicit term suggested by Dr. Christison, the "communicability,"—of puerperal fever in all its forms, is a fact established on the most irrefragable evidence, so much so that it would now be almost criminal for any practitioner to act on the opposite assumption.

* Dr. S. Cusack, in speaking of his second or "low form of puerperal abdominal inflammation," expresses his conviction, "that this disease, if not the same, is at least a modification of that known by the name of 'diffuse cellular inflammation.'" The description given by Dr. Cusack of his second form, so exactly corresponds, in its leading features, with uterine phlebitis, that we have little hesitation in pronouncing the two to be identical. It must be remembered that, at the time his essay was written (1828), the subject of uterine phlebitis was very imperfectly known in this country. Dr. Cusack's very excellent paper was published in the Edinburgh Medical and Surgical Journal, vol. xxxi.

† Dublin Hospital Reports, vol. iii.

Besides the above, which are the principal exciting causes, there are many others that are influential in rendering puerperal women obnoxious to attacks of metro-phlebitis, viz.: mental depression or despondency,—broken down or seriously impaired health at the time of labour,—previous habits of intemperance or dissipation,—the application of cold, or too early use of stimulants after delivery, &c. In proportion as two or more of the above predisposing causes coexist in any individual case, so will the liability of the patient's being attacked be increased. This, indeed, is self-evident.

There are many points of great interest connected with our present subject, which must, of necessity, be passed over unnoticed, as their discussion would occupy too large a portion of our space, and lead us into the much-disputed question of the nature of puerperal fever,—a question about which there still prevail very discordant opinions, notwithstanding the minute and careful attention that has been of late years paid to the study of its pathology, by men of the first abilities, having at their command every auxiliary that modern science has devised for assisting such investigations.

In its mode of invasion and subsequent progress, we have observed uterine phlebitis to manifest great variety, so that it is impossible to make any classification or division that will apply to all cases. It would materially aid us in making the attempt, if the existence of any definite stages, or orders of symptoms, in the disease, could be clearly established; and such, we think, may be done, without overstraining the point, or resorting to artificial distinctions. There is a very close analogy between uterine phlebitis and the phlebitis consequent upon external injury in any other part of the body; so that, to elucidate our subject, we may legitimately borrow an illustration (as Dance has done) from that following venesection at the bend of the arm, where the changes that ensue are more immediately under our cognizance. Here the first group of symptoms that present themselves are those of local inflammation, characterized by pain, swelling, and tenderness along the course of the affected vein and contiguous parts, together with some amount of sympathetic inflammatory fever,

but as yet there are no specific or pathognomonic symptoms. This state of things lasts for a variable period,—usually two or three days, and constitutes the first or true inflammatory stage. If the disease proceed unchecked, it runs on to the second stage, which transition is indicated by the gradual development of that peculiar train of symptoms originating out of a vitiated state of the circulating fluid,—such as frequent pulse, rigors, rapidly increasing weakness, muscular tremors, loss of appetite, colliquative sweats, delirium, &c. In such cases as this,—and the description is not exaggerated,—it will be admitted that there are certain leading features belonging to both stages; and though we cannot always know the exact time when the disease merges from the first into the second stage (or, *totidem verbis*, when the morbid animal poison commingles with the general circulation), yet in their maturity the symptoms belonging to each stage can hardly fail to be distinguished by any one possessing an ordinary share of observation.

Now in all essential particulars this may be taken as a faithful illustration of what occurs on a larger scale in uterine phlebitis. Of course some allowances must be made for the anatomical differences between the two situations, and the influence the puerperal state may have in modifying the disease. From these causes the finer shades of resemblance may be destroyed, but the broad, characteristic features will still remain. When we come to compare individual cases of metro-phlebitis, they are found to present innumerable points of difference in both stages of the complaint.

To speak candidly, we have very seldom seen it possible to pronounce with certainty upon the existence of phlebitis, till the symptoms belonging to the second stage,—those, namely, which denote the admixture of puriform or septic matter with the sanguineous current,—make their appearance, as it is these only which constitute the true pathognomonic symptoms of the disease. M. Dance, in his excellent memoir upon phlebitis, expresses a similar opinion to this just stated.* No doubt, in some instances there may, from circumstances attending the labour, be strong

* Archives Générales, vol. xviii.

grounds for suspecting any inflammatory attack to be of phlebitic origin, but still we cannot be assured of this till a later period. The reasons for this obscurity about the diagnosis in the first stage of puerperal phlebitis are easily comprehended. Analogy and observation both lead us to infer, that the changes going forward at this period of the disease are chiefly, if not entirely, confined to the uterus; and therefore it is to be expected, that the symptoms should put on more or less of the characters of ordinary metritis. What these characters are it is unnecessary here to detail minutely. Among the principal may be mentioned, rapid pulse,—uterine tenderness and pain, preceded very commonly by rigor,—foul tongue,—depraved or scanty lochial discharge,—tumid abdomen,—recession of the milk, &c. Of these symptoms, by far the most constant is frequency of pulse. On some occasions we have seen the local distress so trifling, as to be almost undeserving of attention. Although the patient made no complaint whatever of pain, nevertheless a degree of sensibility or tenderness of the uterus,—such as does not exist in the normal state of the organ at this period after delivery,—was always found to exist. In order to ascertain the point in question, it is not sufficient to press with the flat of the hand on the hypogastric region, but direct pressure should be made with the fingers upon the frondus and sides respectively of the uterus. By this manipulation lurking mischief will sometimes be discovered, which otherwise would have escaped detection. The importance of this proceeding, in doubtful or suspected cases, we first learned from Dr. Johnson, who strongly insists on it in his lectures. The fact of uterine pain being sometimes entirely absent in phlebitis, and even in virulent or fatal cases, clearly shews that it is not an essential symptom. This might be accounted for by supposing some of the septic matter with which the patulous orifices of the utero-placental veins are bathed, to have gained direct introduction into the current of the circulation. But this is mere conjecture.

We have generally remarked, where a patient complained of much uterine pain at the outset of an attack, and sustained the loss of a considerable quantity of blood before syncope took place, that the disease yielded to active treatment; whilst, on the other

hand, in very many cases of phlebitis (as revealed by dissection), these circumstances had not been observed. Though we have spoken of the first stage as having some obvious, if not characteristic, symptoms, yet, from what has been recently said, it will appear that cases do sometimes occur, in which, to use a solecism, there seems to be no first stage, or at least no symptoms to indicate its existence, beyond acceleration of pulse and general indisposition.

When fully developed, the diagnostic symptoms of phlebitis constitute a most striking and remarkable assemblage, in itself sufficient to impress one with the conviction that there exists a profound lesion of the whole organism. No defined or abrupt line of distinction is recognizable between the first and second stages, the one passing gradually and imperceptibly into the other. Owing to this insidious mode of advance, the disease often steals a march on the attendant, and makes considerable progress without his perceiving it. Or it may happen that the first unequivocal intimation of its existence will be the appearance of some of the secondary affections of phlebitis, such as arthritis, inflammation of the eye, purulent deposit in the cellular tissue or muscles, &c. The occurrence of any of these dispels all the obscurity of the case, and at once points to the true source of the patient's previous indisposition.

The symptoms which usually mark the second stage of uterine phlebitis are the following, viz.: the occurrence of rigors not referrible to any other cause,—rapidity of pulse,—a peculiar prostrated expression of the countenance, which becomes of a sallow colour,*—excited action of the arteries, most visible in those of the neck,—gradually increasing debility,—loss of appetite,—profuse perspirations,—diarrhœa,—sleeplessness,—foul and generally dry tongue,—a disagreeable, nauseous smell on the patient's breath, most resembling raw meat,—muscular tremors,—and occasionally low delirium. The late Dr. John Clarke, in a very brief but graphic manner, has summed up this group of symptoms so characteristic of the disease. He writes: "The woman evi-

* This appearance of the face, so characteristic of phlebitis, Dr. Helm designates the "puerperal physiognomy."

dently loses flesh and strength; the countenance becomes pale and sallow, unless when it is flushed with hectic patches of red; the palms of the hands and soles of the feet are affected with burning heat; the pulse becomes small and frequent, and of wiry hardness; the eyes become hollow and the face anxious; colliquative sweating ensues: at length the extremities become cold, and the patient sinks and dies."* Under such circumstances as these the nature of the case must be sufficiently plain to any one possessing even a superficial knowledge of the disease. But it does not always happen that the data from which to found our diagnosis are at all so numerous or well-marked; nay, many of the symptoms above enumerated may be entirely absent, and yet the condition of the patient still be one of extreme peril, and demanding the strictest line of treatment. The danger being so great, it is hardly necessary to dwell on the importance of a correct and early diagnosis of the malady, as any mistake on this head may occasion fatal consequences to the patient, and seriously compromise the reputation of the practitioner. In the humble hope of rendering the recognition of these obscure cases more clear, or at least of methodizing what knowledge we possess on the subject, we are tempted to make a few observations on the symptoms individually, and trust we may not be considered presumptuous for so doing.

1. The occurrence of *rigors* is a very characteristic symptom of phlebitis, but it must be remembered that a rigor may arise from other causes, viz., milk fever, ephemeral fever (weed), or incipient inflammation. To estimate its value, therefore, as a diagnostic, it should be taken in connexion with all the other symptoms, and the history of the case. The rigors of phlebitis may vary in intensity from a mere passing sensation of chilliness to a state of universal shivering, as severe as we see in the cold stage of ague. Again, their number, and the periods of their recurrence, are liable to great variety in different cases. Examples are not wanting where the rigors have assumed a very marked periodicity, with considerable remission of the other symptoms during the intervals,—a state of things calculated to lead an unwary practitioner

* Essays, page 88.

into the belief that the patient was labouring under some form of intermittent fever. If this mistaken notion were acted on, it is needless to say what the probable consequences would be. It is rare to find the fits of shivering attack a patient more than once in the twenty-four hours, and the seizure may occur at any moment; thus it not uncommonly comes on during sleep, whereupon the woman immediately awakes. The recurrence of the rigor within twenty-four hours is a circumstance which, in itself, almost unequivocally points out the existence of phlebitis, as such is never known to happen in ephemeral or milk fever. Some patients acquire an instinctive horror of the rigors, and view their returns with a feeling of vague apprehension and dread. We have seen many fatal cases of metro-phlebitis, in which there had been but a single rigor throughout the whole course of the disease, and occasionally this was a very slight one. As the result of our past experience, we think there is hardly any single symptom which should be regarded with more suspicion and alarm, in a puerperal patient, than a rigor, when it cannot be distinctly traced to milk fever, or weed. In reference to this symptom Dr. Helm observes: "Patients may continue to have fever from eight to ten days without the presence of any other morbid appearance. All at once the woman is seized with a rigor, followed by a second and a third; these confirm the diagnosis: they do not indicate the commencement of suppuration, but shew that pus has been carried into the circulation."* We have sometimes observed a slight degree of rigor to follow, and apparently to have been induced by, the act of evacuating the bowels, particularly if diarrhœa were present.

2. A short time before the accession of a fit of shivering the *pulse* usually falls considerably in frequency, so that if reckoned by the physician at this time he might be incautiously led to give an opinion which the occurrences of the next half hour, perhaps, would induce him to retract. In the reaction following the rigor, the pulse invariably becomes much accelerated, but generally subsides again, in the course of a few hours, to its former standard, whatever that may have been. Its average frequency

* British and Foreign Med. Rev., No. 25.

between the rigors varied from 100 to 120 or 130; in a few instances it was so low as 90 or 84, and this, we think, is to be regarded as a very favourable prognostic. This was strikingly observed in Case XXIII. In cases where the pulse was rapid we have generally found that it had a sharp, vibrating feel under the finger, though not conveying the idea of strength or fulness, but partaking rather of the hæmorrhagic character. It might well be denominated an "irritable pulse." Generally the first symptom of improvement in the state of the pulse was its losing this sharpness, and becoming soft and yielding to the touch; indeed, until it had assumed this, its healthy character, there was seldom any real amendment, even though a diminution in its frequency might have taken place. When, in the progress of a single case, the pulse has been very variable as to frequency, we have sometimes thought that this might have been occasioned by slight, and consequently unnoticed, rigors. (See Case 248 of the Table of tedious and difficult cases.)

3. *Diarrhœa* and a tumid state of the abdomen, from flatulent distention, were very constant, but not invariable attendants upon the second stage of puerperal phlebitis in the examples that have fallen under our observation. Even in those instances where diarrhœa was absent, there was a degree of irritability of the bowels which required much care and circumspection to be exercised in regulating the diet and medicines. On account of this symptom the mercurial treatment could seldom get a fair trial, even though every precaution was used to guard against its running off by the bowels. The evacuations chiefly consisted of a brownish liquid possessing a most intolerably offensive smell. On the first appearance of diarrhœa (and frequently before it commenced) the most scrupulous attention was paid to the patient's food and drinks, as well as to the medicines. The remedy on which most reliance was placed for controlling the diarrhœa was opium in some form, the ordinary astringents having been found wholly ineffectual in most cases. Acetate of lead, in solution with acetate of morphia, sometimes had the desired effect of moderating the purging, when other astringents had failed. As a last resource, the abdomen has been blistered, and very often with satisfactory results.

4. The *tongue* very commonly presents some unhealthy appearance, but this will of course much depend upon the state of the stomach and bowels. Generally it is covered with a thick, whitish coating, and when amendment begins to take place, it cleans from the tip and edges. So far as our experience goes, the most unfavourable condition of the tongue is that of dryness, with its middle of a brown colour. We lately saw a case of well-marked puerperal phlebitis, in which the tongue remained clean and moist until a very few days before dissolution, when, for the first time, it presented a slight brown streak down the centre, which was less moist than the adjoining parts; this gradually increased till the whole upper surface of the organ assumed a mahogany colour. This patient, all through her illness, was quite free from gastro-enteric derangement of every kind, except some little irritability of stomach.

5. We have elsewhere remarked, that *vomiting* is a symptom we have, comparatively speaking, rarely seen in pure uterine phlebitis, and never almost to any great extent. We feel disposed to consider it as more indicative of peritonitis than of phlebitis. When it does come on, it is usually towards the close, and is associated with other gastro-enteric symptoms.

6. Throughout the second stage the skin is generally bedewed with moisture, and when the complaint is drawing near to a fatal termination, profuse sweating, particularly during sleep, is a constant attendant. A miliary rash on the neck and chest very often accompanies this symptom.

There are some other symptoms possessing more or less of interest and importance which are encountered in this formidable disease, but their consideration we must altogether omit, as it would prolong these remarks, already carried beyond the intended limits.

The secondary affections of metro-phlebitis are numerous. Those which we have seen comprise the following, viz. : arthritis,—abscesses in the muscular and cellular tissues and in the parotid gland,—pleuritis,—inflammation of the eye,—ulceration of the intestines,—eruptions of large, purulent bullæ, or miliary vesicles, on the skin,—inflammation of the lungs, &c. We have before remarked, that when any of the secondary inflamma-

tions shew themselves, they will throw satisfactory light upon the case, should any doubt as to its nature have previously existed; but it must be borne in mind that instances do occur, in which uterine phlebitis will attack a patient, and prove mortal, without any of the so-called metastatic or secondary affections manifesting themselves. As to the period at which these make their appearance, there seems to be great latitude, — a few days being sufficient for their production in some instances, whilst in others they will not occur at all, even though the patient may linger on for several days or a fortnight. We do not recollect having ever seen an example of uterine phlebitis coming on in the second week after delivery, where the patient had passed through the first seven days without any unfavourable symptom. Upon this point Dr. Kiwisch writes: “Every lying-in woman who has continued quite well during the first ten or fourteen days after her confinement, is perfectly safe against an attack of puerperal fever.”*

It has been well observed, respecting the treatment of puerperal fever, that the point of greatest importance is to commence it within the shortest possible time after the invasion of the disease. The foregoing observations will tend, we should hope, to confirm this still more strongly, and to shew the necessity of adopting active measures whilst the disease is *in limine*, as we can seldom, if ever, distinguish at the outset what form of inflammation the patient is attacked with. We have said that the first or acute stage of uterine phlebitis is not to be distinguished from ordinary hysteritis; and the line of practice which has seemed to be the most deserving of confidence in treating this, was the antiphlogistic, by which we mean general and local bleeding, the warm bath, and the administration of mercury so as to affect the system. Speaking of mercury, Dr. Kiwisch observes, “that when given so as to induce symptoms of salivation, it is one of the best remedies in most puerperal fevers; and that it can be given with much advantage in the metastatic forms of inflammation, and even in the adynamic stage.” It only requires a superficial perusal of the cases recorded throughout this work, to see that mercury was a

* *Loco citato.*

remedy much esteemed and extensively used in the Hospital, in treating puerperal fever of every form; and it was a trite observation, that if once decided ptyalism could be induced, recovery might almost be deemed certain. In Case 186 of the tedious labours, mercury was successfully employed to arrest secondary inflammation of the eye; but other measures were at the same time put in practice. As this is an important subject, we are tempted to make a quotation from Dr. Ferguson; he writes: "With regard to the use of mercury in puerperal fever, I think that as a purge it may be used in all the forms with advantage, but not as a means of affecting the constitution. In the first form, when inflammatory, it is of essential service after bleeding. In the gastro-enteric it should be given in mild and distant doses, so as to produce an alteration in the secretions, but not to induce ptyalism. Neither in the ataxic form would it be prudent to use it but as an aperient or alterative. In the complicated form, where there is not violent purging, and where the local affections are of an inflammatory and not a gangrenous character, it is the *nobilissimum remedium*. Something, however, must be risked in the treatment of this last type of puerperal fever, both in the use of the lancet and of mercury. The shades of malady cannot be defined or detected, and where there is no obvious objection to the production of the constitutional effects of mercury, it should be exhibited."

In the second stage of uterine phlebitis, when its more characteristic features have become developed, and after the primary symptoms of local inflammation have disappeared, the medical treatment is almost wholly empirical, or directed with a view to relieve urgent symptoms only; for we are still in ignorance as to whether there be any medicine capable of removing or correcting that vitiated state of the circulating fluid upon which the disease would seem to depend. The discovery of such is undoubtedly a great desideratum, and would confer incalculable benefit upon obstetric medicine and the cause of humanity at large. Mercury in this stage is rarely admissible; indeed the state of the bowels alone generally prohibits its employment; but independently of this, we believe there is little prospect of advantage from using it at this period, unless it be to arrest the progress of destructive

secondary inflammation of some important organ, such as the eye. But though we cannot boast of any remedy possessing specific influence in these melancholy cases, still much may be done by the judicious physician, in the way of prevention and palliation, towards conducting the disease to a favourable termination. The leading indications to be fulfilled are: 1st, to relieve or mitigate any urgent symptoms, such as diarrhœa, sleeplessness, vomiting, &c.; 2nd, to support the strength by diet as mild and unstimulating as possible; and lastly, to enjoin the strictest rest of mind and body,—to confine the patient to the horizontal position in bed,—to prevent every source of excitement, moral or physical,—and, in short, to adopt, with unremitting vigilance, every means calculated to tranquillize the system, and to abate or ward off inflammatory action. Experience has shewn this to be an indispensable part of the treatment, and it receives further confirmation from the results of pathological inquiry. Professor Hasse (of Zurich), one of the latest writers upon the pathology of phlebitis, thus expresses himself: “It is indeed matter of astonishment how those very substances which excite the most violent symptoms, when conveyed during and through the instrumentality of the inflammatory process, now become blended with the circulation, without occasioning any mischief whatever. At this period, however, prudence and caution are still needful, for instances are not wanting of errors in diet, taking cold,—in short, whatever at this stage of incomplete recovery has tended either to rekindle the local inflammation, or to excite the general circulation,—leading to a fatal issue.”* This last paragraph is deserving of particular attention, and to its truth and accuracy we can bear ample testimony.

For checking the diarrhœa and procuring rest, opium is the sheet-anchor; from amongst its many preparations we can seldom fail of finding some one to answer the circumstances of each particular case. Where great hurry of the circulation existed, we have seen marked benefit from the administration of digitalis or prussic acid, given in divided doses, and combined or not with a small opiate, according to the state of the bowels. So far as

* Pathological Anatomy, p. 24. Translation published by the Sydenham Society.

our experience enables us to judge, we should say that stimulants will very rarely be found beneficial in the treatment of uterine phlebitis: they have always seemed to aggravate the existing symptoms, and to increase the febrile disposition; which, as we have already seen, should be especially avoided. In one case of marked uterine phlebitis, where the prominent symptoms were rigors and colliquative sweats, we gave a trial to the use of nitro-muriatic acid, but without any apparent success.

To pursue further the details of the treatment is unnecessary, as we shall have frequent occasion to allude to it, as well as to many other subjects connected with puerperal fever, when detailing the cases scattered throughout the work. It must be confessed, however, that our knowledge respecting the treatment is extremely limited indeed, and that, when patients do recover from the second stage of phlebitis, they owe it more to a "happy strength of constitution" (as Denman says) than to the effect of the medicinal agents which have been employed.

Before concluding these observations, there is one other subject to which we would briefly advert. It is best introduced in the language of Dr. Ferguson: "There is another effect of this fearful malady which we have remarked, but have never seen described. Persons who have recovered from an attack of puerperal fever, apparently of no great urgency, often do not regain health for several months, nay even for one or two years. Their pulse continues rapid and irritable, and scarcely an evening passes without slight febrile excitement. In some, boils or abscesses break out from time to time; in others, the mucous membrane of the intestinal canal is affected by the presence of a painful spot, or by great irritability and the consequent variation in the quantity and quality of its secretions. In all there is much emaciation."

Although we have not seen any case exactly corresponding to this description, yet in many patients who had had puerperal fever, we have remarked, that a great lapse of time took place before they were completely restored to their former health and vigour; and that for months they presented a delicate, unhealthy aspect,—had an irritable pulse,—were weak and ema-

ciated in body,—had a bad or capricious appetite,—and were liable to transient abdominal pains.*

Let us now return from this digression to the narration of the cases.

CASE VIII.—*Metritis; Recovery.*

J. B., ætat. 23, delivered October 30, 1843, of her first child, after nineteen hours' illness. On the fourth day she had a rigor, followed by uterine pain and tenderness; for this she was bled to eighteen ounces, and was greatly relieved thereby. On the fifth day, as the pain returned, she was bled again, and the mercurial treatment, which was commenced yesterday, was diligently pursued. The pulse on the sixth day was 136; the tongue dry; disposition to diarrhœa; no mercurial action on the gums; the pain and tenderness now located in the left iliac region.

Hirud. xx. supra sedem dolor.

Pulv. Jacobi gr. ii. 2dis horis.

Ung. Hydrarg. infricand. ter o. d.

In the evening the pulse had fallen to 104, and she was perspiring freely. The leeching was repeated on the seventh day, there being some return of pain, and James's powder was given every three hours, but in the evening it was stopped, as the stomach was irritable.

Eighth day. Purging and hiccup occasionally; pulse 120. Allowed some chicken broth.

Mercurial frictions to be continued.

Acid. Prussici ℥ ii.

Acetat. Morphiæ gr. $\frac{1}{8}$. ter o. d. in haustu.

Ninth day. Pulse 108; gums sore; tenderness gone; is much purged. She was put into a warm bath to-day, and afterwards a

* Throughout the above article the reader may perceive, that the word "phlebitis" has been used in a twofold sense: sometimes implying simply inflammation of a vein; whilst on other occasions, for want of a better term, it has been employed to express that peculiar condition of the system, of which the second stage of uterine phlebitis furnishes, perhaps, the best example, and which is supposed to be produced by contamination of the circulating fluid.

blister was applied to the abdomen, chiefly on account of the excessive diarrhœa. At bed hour she got one grain of opium and one grain of capsicum.

Omit. Ung. Hydrarg.

On the eleventh day the pulse was 96, and all the symptoms improved. From this time forward her recovery was retarded only by the diarrhœa, to restrain which occasional opiates were required.

CASE IX.—*Metritis; Recovery.*

C. W., ætat. 23, was confined of her first child February 28, 1844, after an illness of thirteen hours. She went on well till the evening of the fourth day, when she had a slight rigor, which seemed to have been caused by an undue exposure to cold. The day following her pulse was 110; no tenderness of uterus; the secretions of milk and lochia diminished.

Pil. Hydrarg. et Pulv. Ipecac. āā gr. i. tertiis horis.

Sixth day. Pulse 120; considerable uterine pain and tenderness; lochia and milk suppressed. She was put sitting up and bled to syncope, after which she expressed herself considerably relieved, and pressure over the uterus was productive of much less uneasiness.

Pil. Hydrarg. gr. ii.
Pulv. Ipecac. gr. i.
Calomel. gr. ss.
Opii gr. $\frac{1}{8}$ tertiis horis.
Ung. Hydrarg. n. et m.

Seventh day. Pulse 112; the pain has greatly abated, and is now confined to the left side of the uterus.

Rep. Pil.
Hirud. xx. p. d.
To continue the mercurial inunction.

Tenth day. Pulse 116; lochia brown and scanty; diarrhœa has come on.

Omit. Pil.
Habeat Aceti Opii ℥ v.
Acid. Prussic. ℥ ii. ter o. d.

At evening visit the pulse was 140, and she had been frequently purged during the day.

Haust. Anod.

Pulv. Digitalis gr. i. in pil.

Eleventh day. Slept well; bowels not disturbed in the night, but three times this morning; pulse 132; gums are sore, and there is some mercurial fœtor.

Pulv. Doveri gr. iii.

Pulv. Digitalis gr. i. ter o. d.

Twelfth day. Got an opiate last evening, and rested well; pulse 128; the diarrhœa still goes on.

Empl. Vesicat. abdomini.

Rep. Pulv. Haust. Anodyn. h. s.

Thirteenth day. Allowed her to have some chicken broth, with rice boiled in it; she seems to be improving. For some days after this the purging continued, proving rebellious to every remedy that was employed, except opium, and this seemed only to moderate and not control it. She was kept quiet in bed until the pulse had come down to the natural standard, by which time the bowel complaint had nearly subsided. On the eighteenth day, the pulse being 88 (the same as on the day preceding), she got up without permission, and this imprudent act had the effect of raising her pulse to 112, at which velocity it continued for four days, when it began to fall. During this time she got prussic acid, in the same manner as before, and was confined to bed. She was not in a fit state to leave the Hospital till her thirty-first day.

This patient affords a good illustration of that irritable state of the circulation, which so commonly exists after attacks of uterine inflammation, and which requires the most perfect rest and quietness to be observed, and the diet to be of the least stimulating kind. Chicken broth, even, will sometimes have the effect of raising the pulse in some of these patients, and will on that account be inadmissible. It is a safe rule never to allow a puerperal patient to get up, or have animal food, whose pulse is above 90,

and particularly if she has had any inflammatory attack. This is a maxim of Dr. Johnson's, and repeated experience has convinced us of its truth and importance.

CASE X.—*Erysipelas of Labia.*

M. S., ætat. 28, was delivered of her second child May 30, 1844, after six hours' illness. This was a woman of bilious temperament and unhealthy aspect, and from the time of parturition had a foul, dry tongue, and quick pulse, without any assignable cause beyond a deranged state of the stomach and bowels. Upon the eighth day our attention was directed to the state of the vulva, in consequence of some complaint of pain and uneasiness in the part. Both labia were found considerably tumefied, and, together with the perinæum and adjoining integument, of a deep red colour: there was a burning sensation experienced, and pressure of any kind could not be borne. The case was plainly one of erysipelas, and was treated accordingly. Fomentations were directed to the inflamed parts, and after the bowels had been well freed, such remedies were administered as seemed calculated to bring the liver and digestive organs into a healthy condition. The erysipelas remained stationary for some days; it then centred chiefly in the right labium, which became considerably enlarged, so that we were very apprehensive of the formation of an abscess. This, however, did not take place, but the cutaneous inflammation left the labium, and travelled slowly up the nates and back, and then faded away. The local treatment consisted, as before-mentioned, of fomentations and emollient poultices, together with a strict attention to cleanliness, in order to avoid every source of irritation. She quit the Hospital on her twenty-fifth day.

Erysipelas of the genitals after delivery does not seem to be by any means a common affection. This is the only example we have ever seen, and Dr. Johnson informs us, that throughout his extended practice he never met with another case of the same description. In its treatment there was nothing peculiar, or different from what would have been adopted for erysipelas under ordinary circumstances, or in any other situation, except that a very great attention to cleanliness was of necessity called for. It

seemed very doubtful for two or three days whether suppuration would take place in the labium, or not; indeed, from its tumid condition we regarded the formation of an abscess as almost inevitable.

CASE XI.—*Sloughing of Vagina; Death; Autopsy.*

A. L., ætat. 26, delivered November 26, 1842, of a dead female child, after two hours' labour. Her two former children were also dead born. This unfortunate woman,—the wife of a soldier,—was in a most deplorable condition from long-continued and neglected venereal disease. The labia and anus were the seat of extensive chancrous ulceration and condylomata, and from the vagina there flowed a very unhealthy discharge. Soon after delivery the external genitals became very much inflamed, and swollen to a great extent.

Third day. Pulse rapid; has frequent chills, succeeded by great heat of skin; at the vaginal orifice are appearances of incipient sloughing.

To have small doses of mercury.

Fourth day. Is complaining of shooting pains through the chest.

Fifth day. No abdominal pain or tenderness; pulse rapid and feeble; some little milk in the breasts; diarrhœa has come on.

Internal use of mercury to be suspended.

Sixth day. More weak and debilitated; considerable mucocrepitating rales in both lungs. In fact she appears sinking gradually, her constitution being so shattered as to be incapable of making any stand against the inroads of disease.

Seventh day. Incoherent; extremely weak; dying apparently from the pulmonary affection. Expired this evening.

Autopsy.—Sero-purulent effusion into both pleuræ. Lungs greatly congested, and inflamed in their lower portions. The top of the right lung was emphysematous.

The mucous membrane of the vagina and cervix uteri was converted into one mass of slough. Considerable ulceration throughout the whole tract of the colon.

No traces of peritonæal inflammation.

CASE XII.—*Peritonitis; Death; Autopsy.*

C. N., ætat. 18, delivered of first child, a girl, July 9th, 1842, after three hours' illness. On the third day she was seized with pain in the hypogastrium, succeeded by a rapid pulse and headach.

Bled to eighteen ounces.

Mercury internally and externally.

Fourth day. Abdomen large and tympanitic; pain and tenderness still continue; pulse rapid and full.

Bleeding to be repeated, and to go on with mercury.

Fifth day. The only amendment in the symptoms is, that she complains less of pain in the belly.

Hirud. xxiv. abdomini.

Sixth day. Uterus still very tender; no milk; lochia scanty and pale; suppuration around the wound in arm; diarrhœa has come on.

Omit pil. Hydrarg.

Habeat Mist. Cretæ.

Empl. Vesicat. hypogast.

Ninth day. No visible improvement; frequent diarrhœa; miliary eruption on chest; has had some vomiting; pulse 140, and very feeble: gets an opiate every night.

To have lime-water and boiled milk for her ordinary drink.

Vesicat. epigastrio.

Tenth day. Has been purging and vomiting all night; tongue brown; abdomen full; miliary eruption still out; occasional subsultus; pulse beginning to falter.

Mist. Carb. Ammonia.

Eleventh day. Vomiting and diarrhœa still continue; stools yellowish; no pain complained of in belly. In the evening she said she felt better, though in a few hours after she expired.

Autopsy.—Yellow, serous effusion, intermixed with lymph, in abdominal cavity; considerable peritonitis; uterus of natural size;

a small quantity of pus at the insertion of broad ligaments ; extensive ulceration of mucous membrane of small intestines, and also of the lower part of ileum ; some puriform matter in cellular tissue around the lancet wound in arm, but no inflammation of the vein.

We are disposed to regard vomiting, such as this woman had, to be more generally a symptom of peritonitis than of any other form of puerperal fever. Judging from our experience, it would seem to be by no means common in uterine phlebitis. In this latter disease the stomach may, no doubt, be weak, and easily sickened, yet frequent spontaneous vomiting, not referrible to the quantity or quality of the ingesta, is rare. Dr. Churchill has laid great stress upon the *situation* of the tenderness as a diagnostic between metritis and peritonitis.* In the latter there is universal tenderness of the abdomen on pressure, while in the former it is confined to the uterus. We believe, with Dr. Johnson, that in a large majority, if not in all the cases of puerperal peritonitis, the inflammation commences in the uterus, and spreads from thence with greater or less rapidity. It is very reasonable to suppose that the uterus, being the active organ in the process of parturition, should, therefore, be the most predisposed to disease subsequently ; and in practice we have almost invariably observed the pain and tenderness to originate in the hypogastric region. The quickness with which the inflammation radiates from the uterus till it occupies the entire expansion of serous membrane, may be regarded as a measure, or index, of the malignity of the attack. In the epidemic form of puerperal peritonitis the inflammation spreads with fatal rapidity, so that a very few hours are sufficient for it to pervade the entire extent of the peritonæum, and hence, in these cases, unless the patient is seen at the very outset of the attack, the tenderness will, of course, be general, and not limited merely to the uterus. We are not aware that this fact of the uterus being the point of departure in peritonæal inflammation is prominently put forward by Hey, Gordon, Campbell, or any of the other writers upon puerperal fever ; but in many of their cases it is expressly stated that the pain commenced in the hypogastric or iliac region.

* Dublin Medical Journal, vol. vi. (Old Series.)

CASE XIII.—*Puerperal Peritonitis ; Death ; Autopsy.*

E. N., ætat. 30, third labour ; child, a girl, born alive after four hours' illness, November 26, 1843. This woman's bowels were in a very constipated state at the time of her admission, requiring active medicine. On the second day she was attacked with pain in the uterine region, and fever. She was bled freely, and got mercury ; but all treatment failed to arrest the progress of the inflammation, which rapidly propagated itself throughout the entire abdomen, and proved fatal on the seventh day.

Autopsy.—Extensive peritonitis, and considerable effusion of yellow serum with a large quantity of lymph floating in it. At the attachment of left broad ligament to the uterus was found some purulent matter. The liver was abnormally large, and very friable in its structure.

CASE XIV.—*Phthisis ; Death ; Autopsy.*

M. F., ætat. 25, fourth pregnancy. This poor woman was in an advanced stage of pulmonary consumption upon admission, and was delivered of a premature dead girl April 17, 1843, after an hour's illness. All her symptoms became aggravated after delivery, and she died on the 26th, worn out from exhaustion and hectic fever. The upper lobes of both lungs contained large tubercular cavities, and in the other portions there existed a very extensive deposition of crude tubercles.

CASE XV.—*Bronchitis and Pneumonia ; Death ; Autopsy.*

C. B., ætat. 22, first labour, child, a boy, alive. This woman was sent from a medical hospital on the accession of labour. When admitted, November 9, 1843, she was labouring under a severe attack of double pneumonia and bronchitis. Her labour lasted only two hours, nevertheless she died in three days afterwards, from the chest affection. A *post mortem* examination amply verified the diagnosis respecting the state of the lungs. In the abdominal cavity was some serous effusion.

CASE XVI.—*Tumour compressing Bronchi ; Death ; Autopsy.*

C. F., ætat. 31, third pregnancy. On admission, November 30

1843, she was suffering much from dyspnœa, with a sense of impending suffocation. A physical examination of the chest revealed the existence of some bronchitis in the top of left lung, but wholly inadequate to account for the difficulty of respiration. She was bled from the arm, had leeches applied to the top of the sternum, and was subsequently blistered on the front of the chest. Labour set in December 3rd, and she was delivered in eight hours of a living female child. After this event the pulmonary symptoms became worse, and she expired in four days. A large tumour was found at the bifurcation of the trachea, pressing upon the bronchi. When its outer coat, which seemed of a fibrous nature, was divided, and the interior of the tumour exposed, it exhibited a soft, cheesy structure. The tumour was partly imbedded in the right lung. The left ovary was transformed into a substance of the same nature as that of which the tumour was composed. Bronchial inflammation existed in both lungs, and pneumonia in the lower lobe of left.

CASE XVII.—*Death from Scarlatina.*

C. S., ætat. 28, delivered of her fifth child, February 25, 1842. This woman must have had latent scarlatina when admitted, as it declared itself very soon after delivery, and carried her off on the seventh day.

CASE XVIII.—*Death from Phthisis.*

C. C., ætat. 27, delivered of her first child, April 4, 1842. She had been for three months previously in a medical hospital, labouring under confirmed phthisis, of which she died on the eighteenth day after she was brought to bed.

CASE XIX.—*Death from general Dropsy.*

C. F., ætat. 21, delivered January 8, 1842, of her first child, after four hours' illness. For some months before admission she had general anasarca, and her health was very much impaired. She went on tolerably well until the third day after delivery, when she became semi-comatose, and died on the sixth day. No examination of the body was made.

CASE XX.—*Hæmatemesis during Pregnancy ; Delivery.*

A. M., ætat. 22, a very tall, healthy-looking woman, of robust make and florid complexion, was delivered of her second child October 1, 1844, after an easy labour. This patient had been admitted into the chronic ward September 24th, for hæmatemesis, but upon the accession of pains was removed to the labour ward. Her history was this: for five months previously she had had such constant irritability of the stomach that nearly all food was rejected, and scarcely a day passed that she did not also vomit a quantity of blood. The bowels had been rather too free than otherwise. On admission she was in the last month; the pulse was quiet; the tongue clean; some tenderness of epigastrium; but there were no signs of purpura. She was directed to have six leeches to the epigastrium, and the following draught three times daily:

℞ Infus. Gentianæ ℥i.
 Acid. Nitric. dil. ℥v.
 Syrupi Aurantii ℥ii. M.

She vomited only once after this treatment was commenced. Her convalescence after delivery was uninterruptedly good, and she was discharged on the eighth day.

CASE XXI.—*Jaundice ; Easy Labour ; Recovery.*

I. C., ætat. 26, second pregnancy, was delivered of a living male child on the 21st June, 1843. For a week previous to delivery this woman had been in the chronic ward of the Hospital with jaundice, which had made its appearance a fortnight before admission. Her health, during pregnancy, had been tolerably good, although she suffered much from morning sickness, and this continued even to the time of her becoming jaundiced. On admission she had a good deal of tenderness in the epigastric and umbilical regions, with great irritability of stomach, nearly everything she took being rejected. Before labour these symptoms were greatly relieved by occasional doses of blue pill, and keeping the bowels regular. On the second day after delivery there was some tenderness over the uterus, which was removed by leeching and stuping. A few days sufficed to reinstate her in perfect health, and dissipate every trace of jaundice.

The fœtus, membranes, and cord, presented a uniform tinge of deep yellow, bordering on orange.

CASE XXII.—*Bands in Vagina ; Phlegmasia Dolens ; Recovery.*

C. M., ætat. 29, came into Hospital on the morning of September 8, 1844, in labour of her fifth child. Upon examination the vagina was found to be very hard and rigid in parts, and, in fact, to be the seat of numerous cicatrices, whereby its caliber was greatly diminished. This naturally led to an inquiry of the particulars respecting her former labours, and we learned that her four children, three of them boys, had been born alive, and that she had had quick labours with all of them, except the first, with which she had been rather tedious. Six years had elapsed since the last child, and instruments had not been used, to her knowledge, on any occasion ; she also denied having ever had any disease of the part, from which the cicatrices could have resulted. As this history did not at all explain how the bands came to exist in the vagina, we had to rest satisfied with vague conjecture. At 4 P. M. the os uteri was nearly fully dilated, the membranes ruptured, and the head high up. The pains at this time were most violent, so much so as to cause serious apprehensions for the integrity of the uterus. In order to moderate this excessive action, she was bled, and got forty drops of the acetous tincture of opium ; this not producing a sufficient diminution in the violence of the pains, strong antimonial solution was given, in the strength of a quarter of a grain of the salt, every half hour. By this means the desired object was gained, the uterine contractions being reduced to the ordinary standard of strength and frequency, without being entirely suspended.

Five o'clock. The head about half-way through the pelvis, and advancing with the pains, which are strongly expulsive. The chief obstacles now are two bands, of crescentic shape, one of which is situated anteriorly, and the other behind, and rather towards the right side. At half-past eight there was some bloody discharge from the vagina ; and at eleven o'clock the child, a girl, was born in a state of asphyxia, from which it was restored after some exertion. The labour occupied twenty-one hours. In anticipation of some inflammatory attack, mercurial frictions were

ordered night and morning, by which means her gums, on the fourth day, had become sore, whereupon the inunction was discontinued. She went on as well as possible up to the 21st September, and on the evening of this, her fourteenth day, she complained of stiffness in the right leg, and pain on moving it. The calf was swelled, hard, and very tender; no pain or uneasiness in any other situation, and no constitutional disturbance whatever. A large emollient cataplasm was applied over the calf.

22nd. The tenderness has extended to the ham. The lochia, which had been suppressed since the 18th, returned this day in considerable quantity.

Ordered twelve leeches to the ham.

25th. There is now merely some hardness and tenderness of the calf, and for its removal six leeches were ordered to be applied.

October 1st. Is quite well, and has been up. On examining the state of the vagina to-day, it was ascertained that the bands were again forming, and that there was so much constriction of the upper part of the canal as to render it difficult to feel the os.

7th. She was allowed to return home for a short time to the country, to recruit her health, under promise of coming back to have means adopted for the prevention of contraction of the vagina.

How the cicatrices of the vagina were produced in this case it is very difficult to say, as our cross-examination utterly failed to elicit from her any information that could at all throw light upon the cause of their formation. In women who never had children we have known bands and contraction of the vagina to follow the cicatrization of chancrous ulcerations.

The attack of phlegmasia dolens which appeared on the fourteenth day was slight, as is generally the case when it commences in the calf, and did not last long or require very active treatment. Two circumstances connected with it are deserving of attention: firstly, that from the time of delivery she had been entirely exempt from every symptom of uterine inflammation; and secondly, that the disease clearly commenced in the calf of the leg, and, consequently, could not have been an extension from the uterus, supposing it to have been the seat of any inflammation.

CASE XXIII.—*Phlegmasia Dolens of both Legs; Recovery.*

M. T., ætat. 40, was delivered of her first child September 25, 1844, after an illness of twenty hours, in the course of which there was no deviation from strictly natural labour. We may here remark, that during her pregnancy the veins of the left leg had been in a varicose condition. Matters were going on favourably up to the fifth day, when she complained of some pain and stiffness in the *left* leg, which appeared a little swelled. On the morning of the seventh day she had a rigor, and when seen three hours afterwards the pulse was 96, and there was considerable tenderness in the course of the left iliac vein, down to the femoral, and the leg was more swelled, though there was no increase of pain in it.

Hirud. xx. regioni inguinal. sinist.

Pil. Hydrarg. gr. ii.

Pulv. Jacobi, gr. i. ter o. d.

Mercurial frictions.

Eighth day. Pulse 96; lochia pale; tenderness now confined to the uterine region; bowels free.

Hirud. xvii. hypogastrio.

Pil. Hydrarg. et Pulv. Doveri āā. gr. ii. tertiis horis.

Ung. Hydrarg.

Considerable relief followed this leeching, and the pain and uneasiness in the uterine region were completely removed. The continuation of this case extends over a period of nearly two months, so that we must condense its history into the smallest compass. On the tenth day the femoral vein seemed to have become inflamed, as it was felt rolling under the finger, and was tender on pressure; ten leeches, therefore, were applied over it. On the twelfth day her mouth was affected by the mercury, so its administration was stopped, and she was ordered one grain of digitalis, and three of Dover's Powder, thrice daily. Upon the day following she complained of pain in the *right* leg, which was found swelled up to the knee; the pulse was only 88, and there was some diarrhœa.

Fifteenth day. The swelling of *right* leg has increased, and

there is much tenderness in groin of same side, to relieve which ten leeches were directed, and fomentations.

Sixteenth day. The seat of tenderness is now transferred to the uterine region. The right leg is more swelled, and pits upon pressure ; pulse 88.

Fotus Terebinthinæ hypogastrio.

Pulv. Jacobi gr. i.

Pulv. Doveri gr. ii. ter o. d.

Seventeenth day. The left leg is greatly improved, but the right is worse, being of a dead white colour, tense, shining, and larger than it has hitherto been ; pulse 90.

Sulph. Quininæ gr. i.

Pulv. Doveri gr. ii. ter o. d.

Twenty-fifth day. Her pills were stopped yesterday, on account of some cough and abdominal pain, of which the latter was removed by diligent stuping. This day the left foot and ankle are swollen and œdematous, and there is much tenderness in the course of the internal saphena vein. It will be remembered that this leg was the one first attacked.

Twenty-seventh day. She had a severe and prolonged rigor yesterday forenoon, and since then has been suffering from an acute pain in the right hypochondrium, extending up the side. The least pressure in this situation cannot be borne ; pulse 88 now, though last evening it was 112.

Empl. Vesicat. supra dolorem.

To have chicken broth.

Guttæ Nigræ ℥ xii. h. s.

Twenty-eighth day. The cough is now a troublesome symptom, and attended with much mucous expectoration ; the pain in the side has greatly abated ; bowels too free. At 4 P.M. she had a marked rigor, and four hours afterwards the pulse was 120. Upon examining the legs we found over each patella a dusky red spot, the size of a shilling, with a defined margin, and tender on pressure. In fact they were no way distinguishable from the appearances observed upon the joints in cases of puerperal arthritis, and which were first described by Denman, who considered them

a "mortal sign." As her strength was greatly reduced, she was allowed two ounces of wine in the day, besides chicken broth and arrow-root.

At 4 P. M., of her thirty-second day, October 27th, she had another rigor, after which the pulse rose to 146, but on the succeeding morning had come down to its average rate of 88. From this period up to November 6th she had cough, and much mucous expectoration; constant tendency to diarrhœa, requiring the frequent administration of opiates. Both legs continued swollen, and she had frequent attacks of abdominal pain, which stuping generally relieved. Her medicines were Tinct. Digitalis, and Spirit. Junip. Comp., in the day-time, and anodynes at night, whilst the diet consisted of chicken broth, arrow-root, and a small allowance of wine daily. Under this plan of treatment she was slowly amending. On November 8th it was thought advisable to bandage the legs, which were still much tumefied. A flannel roller was used for this purpose, and it was applied from the foot to the groin, with a moderate degree of tightness. The effect of this was to reduce considerably the œdematous swelling of the limbs, but at the same time she began to suffer from oppressed respiration, with super-secretion of mucus into the bronchial tubes. These unpleasant symptoms, which came on within six hours after putting on the bandage, and were, doubtless, the result of the rapid absorption of the effusion into the cellular tissue of the legs, were speedily removed by administering diuretics, and taking care that the bandage should be loosely put on. From this time forward she progressed rapidly towards recovery, and on November 24th she was discharged from the Hospital.

This long case presented many features of interest during its progress; we shall only notice a few, however. There was one symptom which was the ground of much hope for her ultimate recovery, namely, that the pulse was not permanently rapid; for though it was accelerated after each rigor, yet in a few hours it subsided to its usual standard of about 88. The red spots which appeared on the knees gave rise to much apprehension, and though they might have differed in their nature from those described by Denman, yet in their physical characters they were undistinguishable. They were of only forty-eight hours' con-

tinuance, and her position in bed when they came out was precisely the same as it had been for days before and after. The migratory character of the phlegmasia dolens was very remarkable, commencing in the left leg; then attacking the right, and almost leaving the left; and lastly, the leg first affected being re-attacked. The sudden occurrence of dyspnœa, after the rapid reduction in the size of the limbs, cannot but afford interest and instruction, though facts of a similar nature are by no means singular or uncommon in the practice of medicine. Dr. Lee states that he has "seen much mischief produced by having recourse too early to remedies intended to promote the absorption of the fluid into the cellular membrane."*

As Phlegmasia Dolens more commonly makes its appearance after than before the end of the first week, it is not often met with in the Hospital, the patients being discharged from thence on the eighth day, if perfectly well. Of twenty-two cases of this disease, reported by Dr. R. Lee, in seven "it commenced between the fourth and twelfth days after delivery, and in the remaining fifteen it appeared subsequent to the end of the second week after parturition."† Denman also states that it most commonly happens between the fifth and twelfth days. When the disease comes on early, that is, before the fifth day, or within the first week, there is a great probability that it is connected with uterine inflammation of some kind, and therefore the prognosis should be more guarded, and the treatment more energetic.

It has generally commenced with a rigor, succeeded by acute febrile symptoms. On some occasions, however, its invasion was more slow and insidious, and in other instances it has closely followed upon an attack of uterine inflammation. We believe that phlegmasia dolens often occurs as a sequela of uterine phlebitis, for in different cases we have seen it to be preceded, accompanied, or followed by puerperal arthritis, or some other unequivocal secondary affection of metro-phlebitis. In the majority of instances the pain and tenderness commenced in the iliac or femoral region, and from that extended gradually down the leg, following the course of the crural vein. In other cases, on the con-

* Lectures on Midwifery, p. 545.

† Ibid. p. 542.

trary, the disease commenced in the calf, and proceeded upwards. These were less common and generally milder cases.* We agree with Denman, that where the second leg becomes affected, it is not by any translation or metastasis of the disease from one limb to the other. The left leg is the one more frequently attacked, and where both are affected, the left has been the one in which it first appeared.† The countenance generally acquires, though in a less marked degree, the colour and expression so characteristic of phlebitis, and the urine, throughout the course of the disease, will be found to present an unhealthy appearance, and to be deficient in quantity.

At the present day some discordance still prevails amongst pathologists respecting the true nature of phlegmasia alba dolens, notwithstanding the strong evidence brought forward by Dr. Davis,‡ M. Bouilland,§ and Dr. R. Lee,|| in favour of the doctrine which ascribes it to phlebitis. This, however, is the most commonly received opinion; but, although we are fully satisfied of its general correctness, yet we would not go so far as to say that every case of phlegmasia dolens was caused solely by venous inflammation. In the very few cases where the death of the patient has given us an opportunity of examining the condition of the limb, we have found that phlebitis of the crural vein had

* We saw one case of phlebitis confined to the internal saphenous vein, in a woman who was delivered of twins in the Hospital, December 5, 1845. It did not appear for three weeks after delivery, and began in the upper part of the thigh, whence it travelled slowly down as far as the calf of the leg. There was a total absence of constitutional disturbance, or swelling of the affected limb.

† This predilection of certain puerperal diseases for the left side of the body is very curious, and not easily accounted for. It has been thought that the position of the woman on the left side during delivery had much to say to it; but this cannot be the true explanation, as in France and other countries women are confined on the back. Besides the example given above of phlegmasia dolens, we find that puerperal intropelvic abscesses occur much more frequently in the left side than the right. Dr. Battersby states (*Dub. Quarterly Jour.*, vol. iii.) that of twenty-six cases seen by M. Grisolle and Dr. Lever, in eighteen the tumour occupied the left side. In the only instance we have ever seen of abscess of the labium following delivery, the left labium was the one affected. Again, in Dr. Locock's and Dr. Hall's cases of puerperal ophthalmitis, the left eye was the one uniformly attacked. (*Tweedie's System of Practical Medicine*, vol. i.)

‡ *Medico-Chirurgical Transactions*, vol. xii.

§ *Archives Générales de Médecine* for 1823.

|| *Pathology and Treatment of some of the most important Diseases of Women.*

existed. There is in the museum at the Hospital a preparation taken from one of these patients, that beautifully exhibits the morbid condition of the vein.

In all cases of this affection the woman was strictly confined to bed, and kept in the horizontal position. Indeed the weakness and depression so constantly attending the disease prompts the patient to observe this rule of her own accord; nevertheless, it is best always to enjoin it, as instances are on record where death has taken place apparently in consequence of a sudden change from the recumbent to the sitting posture, or owing to some bodily effort or exertion. So far as regards treatment, we may consider the disease to have two stages, an acute and chronic; in the acute stage, the diet of the patient must be of the simplest and most unstimulating kind. The limb, besides being frequently fomented with soothing applications, had been leeches over the seat of the greatest tenderness; and after the leeches had fallen off, a soft, light poultice encouraged the bleeding, and proved very grateful to the patient's feelings. We would remark, however, that in phlegmasia dolens, as in other diseases attended with much prostration of strength, it is sometimes needful to guard against the oozing of blood for any considerable time from the leech-bites. The necessity for a repetition of the leeching was judged of by the strength of the patient, and the degree of tenderness in the limb. We have frequently seen the pain to change its situation several times under the influence of topical depletion, thus requiring the application of leeches to a fresh spot for four or five days successively. The use of mercury in this complaint is rather condemned by Dr. Lee, but Dr. Johnson is favourable to its employment, and it has generally appeared beneficial when given so as to gently affect the system, and produce slight ptyalism. It has been considered desirable to accomplish this as much as possible by the external use of the medicine. Next to mercury in the list of remedies we would place James's Powder and diuretics. The former may be advantageously combined with blue pill, or given alone, or with Dover's Powder, according to circumstances. After the gums have been touched, diuretics are exhibited, unless diarrhœa should be present, in which case

astringents must be employed. Of this class opium will be found as valuable here as in uterine phlebitis, not only for its astringent, but also for its anodyne and narcotic qualities. In the milder cases of phlegmasia dolens it has not been found necessary to give mercury except as a purgative or alterative. A wide difference of opinion exists as to the utility of blisters, some authors highly extolling them as being almost specific in this complaint, whilst others as strongly deprecate their employment. We believe that, when used under the same restrictions that regulate their employment on other occasions, viz., after bleeding has been practised, and the very acute symptoms subdued, they will be found productive of much benefit. Some discrimination is necessary to know when the stimulating plan of treatment may be advantageously substituted for the antiphlogistic, in other words, when the disease has fairly assumed the chronic form. As soon, however, as all febrile indications have subsided, and that the tongue is clean, and the limb free from inflammatory pain or tenderness, we may safely begin to change our hand and to try the effect of a more generous regimen, and of a less lowering line of treatment. This change had better in general be cautiously and gradually made, as relapses are apt to occur if it be sudden or premature. We must, as it were, feel our way, and effect the desired alteration by little and little, for in this malady, as in uterine phlebitis, there is a surprising degree of constitutional irritability, oftentimes persisting after the patient is considerably reduced, and rendering all attempts at strengthening the system by diet or medicine, for a long time, unsuccessful. This can only be overcome by extreme caution, and in fact by stealing the medicines and nourishment into the system in the most gradual and insidious manner. To remove the swelling and stiffness of the limb, gentle frictions with any discutient liniment* may be practised, and the leg sub-

* The camphorated oil has generally been used, and will be found to answer, perhaps, as well as any other. The following liniment is recommended by Dr. Hull:

℞ Ung. Adipis Suillæ ʒ i. ss.
 Camphoræ, ʒ iii.
 Quibus Liquefactis admisceantur, ol. Essent. Lavand. ℥ xii.
 Tinct. Opii. ʒ ii. M.

sequently bandaged with a flannel roller from the toes to the top of the thigh. Case XXIII. well exemplifies the necessity for applying the bandage rather loosely in the first instance.

Should the patient continue to amend after this treatment has been tried, and after the system of diet has been improved, we may venture to prescribe some vegetable tonic, such as the infusion of gentian. The addition of a diuretic to the mixture has generally seemed to augment its value. At a later period, quinine was given, and has been found to act most efficaciously in restoring the appetite and tone to the system. The swelling in this stage has generally all the characters of œdema, and when the limb is indented with the finger the impression will be retained for some time; whereas in the early stage of the disease the integument is tense and elastic, and does not usually pit on pressure.*

It is often surprising how rapidly the swelling of the leg subsides after the application of the bandage, a visible reduction being sometimes apparent in the course of a few hours. So soon as the strength will permit, removal to the country or change of air will be found of most decided advantage. The affected limb may remain for a long time, or even during life, above its natural size. We have known the stiffness and loss of power of the leg to continue for months, but under the influence of tonics and change of air, with the persevering employment of the topical treatment above described, the perfect use of the limb has been eventually regained.

We may just observe, before taking leave of the subject, that we lately saw a case of phlegmasia dolens in both legs, following upon an early twin abortion, in which one of the placentaë was retained in the uterus for some days, when it came away in a dissolved and putrid condition.

* "In no instance, as far as my reading and observations go," writes Dr. Hull, "has it been proved that the effused fluid in the early part of the disease consists of serum or serosity only; for, wherever punctures have been made, it has been found impossible to draw off the whole of the effused matter, and reduce the limb to its natural size, as may generally be done in cases of anasarca."—*Essay on Phlegmasia Dolens*, p. 207. Manchester, 1800.

CASE XXIV.—*Puerperal Mania ; Death ; Autopsy.*

E. M., ætat. 28, delivered of her first child, a girl, April 16, 1842, after thirteen hours' labour. She went on tolerably well until the fifth day, when she was bled on account of cough, and ordered to have a blister applied to the chest; lochia rather scanty.

Blue pill and Ipecacuanha three times daily.

Sixth day. Pulse 100. As the cough was still troublesome the bleeding was repeated.

To continue the pills.

Nine o'clock P. M. Awoke screaming, and jumped up in the bed in a state of great excitement, and quite maniacal. She was given tartar emetic solution at intervals, which tranquillized her. She continued to improve for two days, when the maniacal symptoms recurred, and were of a more violent character; head rather hot; pulse 160. The antimonial solution was again administered; the scalp was shaved, and a cold lotion applied. Under this treatment the mental disorder subsided, but the pulse continued very rapid, and she began to suffer from diarrhœa. On the evening of the 24th (her eleventh day) the belly became tympanitic; for some hours there had been no diarrhœa; pulse 136, and feeble.

Extract. Hyosciami gr. v.

Camphoræ gr. iii. h. s.

25th. No diarrhœa; is apparently very low and weak. She lay quiet during the day, but in the evening she suddenly leaped out of bed, and was very violent and obstreperous. When subdued and put back into bed, she preserved an obstinate silence.

Blue pill and ipecacuanha during the day.

Enema Terebinth. statim.

Empl. Vesicat. nuchæ.

To get some chicken broth.

She continued in this state till the evening of the 28th, when it was necessary to give her some carbonate of ammonia she seemed so exceedingly weak.

29th. An erysipelatous blush appeared this day on the side of the face and head : she is now rational and collected, but so feeble as to require wine occasionally. The erysipelas rapidly extended, and on the evening of May 1st she became lethargic, in which state she continued until death took place on May 2nd. For the last two days of her life she had sordes on the teeth, subsultus tendinum, and retention of urine ; pustules also came out on the anterior part of the right thigh ; and an erythematous redness appeared on the right fore-arm, the right knee, and left leg, above the ankle.

Autopsy.—Vascularity of the arachnoid covering the left anterior lobe of the cerebrum : about an ounce and a half of serum at the base of the brain. The lungs were much congested, and at several points attached to the ribs by old and recent adhesions. No abnormal appearance in the abdomen.

This woman lay in the bed adjoining Case xxv., and, as will be seen by comparing the dates, the latter patient was the first to become insane ; and it was supposed that seeing her had considerable effect in producing maniacal symptoms in the one whose case we have just recorded.

CASE XXV.—*Puerperal Mania ; Recovery.*

A. R., æt. 21, an unmarried female, was delivered of her first child, a male, April 16, 1842, after four hours' illness. She progressed favourably until her fifth day, when she got pain in the uterine region, with diminution in the quantity of milk and lochia. She was bled to fourteen ounces, and put on the use of mercury. In the evening she suddenly became very excited and violent, talking loudly and incoherently ; pulse 128. She was immediately given some tartar emetic solution, and this was repeated at short intervals until it had produced nausea and full vomiting. This treatment was eminently successful, for not only did it moderate her violence, but she fell into a tranquil sleep which lasted till morning, when she awoke in her right mind, and there was no return of the mania. The pulse remained frequent for some time, but eventually came down to the natural standard, and some days afterwards she was allowed to return home.

CASE XXVI.—*Metritis ; Puerperal Mania ; Recovery.*

M. D., aged 20, delivered of her first child, a boy, December 20, 1842, after a labour of two hours. There was no feature of any importance in her labour, except that she fainted twice, apparently from the excessive pain.

Second day. Has some cough, and complains of pains in the loins. In the evening she complained of violent headach; the countenance was anxious; pulse 80; some uterine tenderness.

Pil. Hydrarg. et Pulv. Jacobi āā. gr. iv.

Ol. Terebinth. et Ol. Ricini āā. ʒiv. cras.

Third day. Had no sleep; pulse 100, and full; tongue white; bowels were freely evacuated; lochia natural; uterus more painful.

V. S. ad ʒ xviii.

Fot. Terebinth. hypogastrico.

Pil. Hydrarg. et Pulv. Ipecac. āā. gr. 2ndis horis.

She bore the bleeding tolerably well, but the stupe gave more than ordinary pain, and caused a feeling of faintness. After this had passed off, her manner underwent a striking change, and she became very restless and excited, wanting to get up and dress herself, and, at the same time, talking very loud and unconnectedly, whilst at other moments she was laughing and singing. Some antimonial wine was now given, and apparently with the effect of quieting her.

Vesperé. All pain has left the abdomen, but her manner is abrupt and agitated.

Submur. Hydrarg. gr. i.

Pulv. Jacobi gr. ii. in pil. 2ndis horis repetend.

Ung. Hydrarg. infricand.

Fourth day. Pulse 100, and softer; tongue white; bowels three times moved; some pain in the hypogastric region; lochia and milk present: her manner collected and rational.

Rep. pil.

Vesperé. Had a rigor in the day; now complains of some frontal headach.

To have Mist. Ammoniaë citrat.

From this time forward she was free from all mental derangement, but for a few days she had symptoms of lurking uterine inflammation, requiring the continued exhibition of mercury. After the gums had been gently touched, an immediate improvement began to take place, and she recovered rapidly and perfectly. The attack of mania in this case was of very brief duration, not lasting more than a few hours; nevertheless, during its continuance she presented all the symptoms of complete and well-marked insanity. Its coincidence with uterine inflammation is also a point of interest: and the absence of abdominal pain during the mania is a circumstance deserving of particular attention. To this we shall advert further on.

CASE XXVII.—*Puerperal Mania; Recovery.*

A. S., aged 25, second pregnancy, delivered of a boy after an illness of six hours, February 28, 1843. During labour this woman's manner was remarkably boisterous. On the second day after delivery she had abdominal tenderness, for which it was necessary to use stupes, bleed, and give mercury. On the fifth day the tenderness was gone, but her manner was abrupt and peevish, and this peculiarity increased for the next three days, so that on the eighth she was completely maniacal; her pulse was quick, and there was much restlessness. She was put in a ward by herself, was closely watched, and kept under the influence of tartar emetic for several hours. Under this management she gradually calmed down, and became quiet and rational, and was able to go home on the eighteenth day. Though there was much excitement and considerable quickness of pulse when the mania declared itself in this case, yet there was no direct symptom whatever of phrenitis; on the contrary, the head was cool and the pupil natural.

CASE XXVIII.—*Puerperal Mania; Recovery.*

C. D., aged 24, third child, delivered November 20, 1844, having been only one hour sick. This unfortunate woman who had been abandoned by her husband, seemed on admission to be

in the lowest depth of poverty and destitution. A slight acceleration of pulse was the only unfavourable symptom that manifested itself until the fifth day, when she became quite deranged, but not refractory. In her manner she was suspicious and sullen; this gradually gave place to insanity of a more active kind, though, at times, she evinced so much of cunning and subtlety as almost to persuade one she was malingering. Her pulse was increased in frequency, and she complained of headach across the frontal region, and also that light was disagreeable to her. Upon the first appearance of maniacal symptoms she was removed from amongst the other patients, and placed in a small ward by herself, under the care of a watchful nurse. Tartar emetic solution was given her in the first instance, to lessen general excitement, and afterwards purgatives were administered, and leeches applied to the temples; by which treatment, with rest and low diet, a complete cure was effected.

CASE XXIX.—*Puerperal Mania; Recovery.*

This case ought not, properly, to be inserted here; but as the attack of mania constituted its only feature of interest, we have ventured to deviate from strict order for the sake of convenience. C. W., aged 20, was delivered of her first child, a boy, which presented footling, June 1, 1844, after nineteen hours' labour. She went on remarkably well for two or three days, when slight diarrhœa came on, the pulse being 100, and the abdomen tympanitic. She was kept on low diet, and got occasionally a few grains of Dover's Powder. Towards the eighth day the motions became scanty and ill-coloured, but the recent diarrhœa and the tympanitis deterred us from giving purges. On the morning of the eighth day a remarkable change was observed in her appearance and manner; she looked wild and excited, and talked much incoherent nonsense, her chief topics being of a very obscene nature. The nurse stated that she had been raving during a great part of the night. Notwithstanding her garrulity and wildness of manner she could be awed into obedience by speaking with a determined voice and gesture. The pulse was 130; pupils rather dilated; skin hot and dry; tongue foul; thirst; belly full and

tympanitic; bowels confined; no flushing of face, nor increased action of vessels about the head; breasts distended with milk. She was closely watched, and ordered the fourth of a grain of tartar emetic in solution every half-hour. After the second repetition of the medicine she got half a grain at each dose. When seen four hours afterwards, she had taken nearly four grains of tartar emetic without its having produced even the least nausea, and her symptoms remained unchanged. Twenty grains of ipecacuanha, with one of tartar emetic, were now administered, and followed up by draughts of tepid water, which she had previously refused to take for the nurse. This had the desired effect, and full vomiting ensued. At bed-time she got five grains of extract of henbane and five of blue pill.

The next day there was the most marked amendment, and the maniacal symptoms had quite disappeared. In her manner she was perfectly quiet, and seemed reluctant to speak unless when addressed; pulse 120. The bowels had been several times affected in the night. The motions were dark and offensive, and contained numerous scybala. There was some diarrhœa for three days. The pulse gradually lowered in frequency, and on the twelfth day it was 96, but she was not considered fit to go home till her nineteenth day. This woman was again confined in the Hospital in the autumn of 1846, and had a good labour and most favourable recovery.*

The outbreak of Puerperal Insanity in this patient was very sudden and unexpected; in the majority of cases, however, it does not come on in this abrupt way, but is preceded for a few days by certain symptoms, which the watchful practitioner will scarcely fail to observe and to profit by. The most common of these premonitory symptoms are a disposition to find fault or quarrel with her nurse, loss of sleep, and quickness of pulse. On other occasions suspicion will be first excited by some deviation in the patient's manner or language from what is usual or natural to her; thus she will be peevish or fretful, or sullen and discontented. When, from the concurrence of two or more of these, an attack of

* It may be well to mention here that in two of the cases detailed under the head of convulsions (viz. Nos. 7 and 8), puerperal mania occurred.

mania is apprehended, orders should be immediately given to keep the patient as quiet and undisturbed as possible; and further, it is necessary to have her closely and unremittingly watched by a vigilant attendant, as well to prevent her doing harm to the infant as to herself. This disposition to injure themselves or their offspring is a striking feature in puerperal insanity, and one which it is most important to bear in mind throughout the entire treatment. After a patient has become decidedly maniacal, she will often prove refractory, and obstinately refuse taking her medicine or submitting to rule, and the contest will be whether she or the doctor is to have the ascendancy. Under these circumstances it is requisite for the physician to exercise much tact and resolution in his language and conduct towards the patient. If he does not succeed in enforcing his directions by mild expostulation, he must shew himself to be determined, and, without harshness, insist on his orders being obeyed; for if, through vacillation or want of resolution, he now fail to establish his authority, he will lose all control or restraint over the patient; whereas, on the other hand, if he carry his point, and bring her into compliance, it will have a lasting effect, and she will probably stand in awe of him during the remainder of her illness.

A striking example of this occurred in the Hospital. A patient in a ward with five others became maniacal, and at the same time so violent, that it was thought necessary to separate her from the rest, and to put her into a room by herself. When they came to remove her, however, she appeared resolved not to go, and maintained her position with such strength and obstinacy, as to set at defiance all the efforts of the nurse to effect her transportation. In this dilemma Dr. Hardy (being the assistant on duty) was sent for, and, seeing how the matter was, quietly lifted the patient up in his arms, and carried her bodily into the ward appropriated for her reception. From being extremely boisterous and unmanageable, she immediately calmed down into a state of perfect submission, and seemed as it were quite awe-stricken by the unexpected suddenness of the act. She did not again give any trouble. Until she was quite recovered, the presence of Dr. H. always put her into a state of trepidation and alarm, and any command of his she promptly and implicitly obeyed.

From what we have seen of puerperal mania, we would for practical purposes arrange the different cases of it into three classes. In the first may be placed all those cases where there is a highly excited state of the circulation and system at large, but without any evidence of cerebral inflammation. The skin will be hot and dry; the pulse rapid, sometimes extremely so; and the patient disposed to be noisy and talkative. Of this class Case XXIX. is a good example, and the treatment pursued in it is what experience has shewn us to be the most appropriate. The tartar emetic answers admirably well, and in point of suitability and efficacy is superior to any other remedy that we know of. In this as in other forms of the disorder, the state of the liver, stomach, and bowels should be carefully ascertained, for we have generally found them to be in a deranged condition. This was well exemplified in the case last related. Where constipation was present, some blue pill or calomel was administered, and followed by a purgative draught.

The above treatment was generally successful in restoring the patient to reason, and Cases XXV., XXVII., and XXIX. are good examples of the efficacy of tartarized antimony, and of the promptness with which it acts. A narcotic was occasionally given at bed-time, provided, of course, that no indications of cerebral congestion or inflammation were present. The extract of conium, or hyosciamus, was usually preferred, but if this did not procure sleep, the solution of acetate of morphia, or the black drop, was given.

In the second class we would range those cases where the insanity is accompanied by inflammation of the brain or its membranes, which serious complication will of course claim the undivided attention of the physician, and will demand the energetic employment of all the established means for the treatment of phrenitis. Where the mania depends upon, or coexists with this condition of the brain or its envelopes, the patient is justly considered to be in great peril, and a very guarded prognosis should be given. This is a comparatively rare form of the disease; Case XXIV. may, perhaps, be considered as an example of it. Dr. William Hunter, speaking of mania in puerperal women, used to say: "When out of their senses, attended with fever, like pa-

raphrenitis, they will in all probability die; but when without fever it is not fatal, though it (i. e. the fever) generally takes place before they get well."* We can only agree with him in this, however, that the existence of phrenitis (a disease at any time dangerous) along with puerperal mania renders the prognosis very unfavourable, and places the patient's life in great peril. We further think, that the circumstance of a quick pulse accompanying the mania is *per se* no sufficient proof of the presence of cerebral inflammation.

The third class of cases are those in which the impairment of reason occurs as a solitary symptom, being unaccompanied by any marked bodily derangement; the pulse is little above the natural standard, the skin is cool, and there is no headach or flushing of the face. The character of the insanity does not seem to be subject to any fixed law in this group of cases; but it more commonly happens that the patient is gloomy and taciturn, and rarely excited or violent. The plan of treatment that was adopted in these cases chiefly consisted in correcting the state of the bowels when they were at all disordered, and administering anodynes at night. Of this class of remedies preference has usually been given to extract of hyosciamus with camphor: solution of the acetate of morphia, or black drop, has been substituted where there was much vigilance. Dr. Gooch, and more recently Dr. E. J. Seymour,† have greatly lauded the efficacy of opiates in the treatment of insanity following upon parturition. But, without wishing to undervalue their utility, we nevertheless think that considerable discrimination is necessary for their judicious employment, as in many cases they would rather aggravate than remove the maniacal symptoms.

In this as in the other classes, the symptoms have occasionally altered their character during the progress of a case, and when this took place a corresponding change was made in the treatment. Whenever headach was much complained of, an evaporating lotion was applied to the forehead, or leeches to the temples. We have never seen general bleeding employed in the

* Manuscript Lectures, quoted by Dr. Gooch.

† Thoughts on the Nature and Treatment of several severe Diseases of the human Body. 1847.

treatment of puerperal mania, nor do we think that it is ever necessary on account of the mental affection, though we do not deny but that it might be required on account of some concomitant inflammation. Dr. Gooch's rule for the use of blood-letting is admirable,—“never to employ it as a remedy for disorder in the mind, unless that disorder is accompanied by symptoms of congestion or inflammation of the brain, such as would lead to its employment though the mind were not disordered.”

Sometimes a patient threatened with puerperal mania would, for valid or imaginary reasons, take a great aversion to her nurse, whose presence and attention then became a continual source of mental irritation and annoyance. Under these circumstances, when the patient could not be quietly reasoned out of her prejudices, it was usually thought expedient to provide a new nurse, one who, without compromising orders, would accommodate herself to the whims and caprices of the invalid.

There is a fact of much practical interest connected with our present subject, which we may here allude to; namely, that abdominal inflammation sometimes alternates with the alienation of reason, and this at a period after delivery when a patient is usually considered free from the liability to such attacks. A remarkable instance of this was related to us by Dr. Johnson. A patient some days after delivery became maniacal, and in this state continued for a week, when she regained the possession of her intellect, but to this immediately succeeded violent peritonitis, which carried her off. A nearly similar occurrence took place in another instance, whose history we have given at length under the head of Convulsions, Case No. 8. In Case xxvi. of the present chapter it may be observed that, after the patient was attacked with mania, the symptoms of uterine inflammation almost entirely disappeared, but upon the return to consciousness they again became apparent. We lately saw a fatal case of puerperal mania, of the low, melancholic form, with rapid pulse. On examining this woman after death, there was found most extensive peritonitis, with copious lymphic exudation, although during life she had not exhibited a single symptom to lead to a suspicion of

the existence of abdominal inflammation. This remarkable case was also seen by Dr. Johnson and Dr. Denham.

Nearly all the cases of puerperal mania that we have ever seen occurred within the first week or ten days after parturition. It is scarcely necessary to observe, that in this as in other forms of insanity, forcible restraint should be avoided as much as possible, and only resorted to under the most pressing exigency.

TEDIOUS AND DIFFICULT LABOURS.

Our observations upon the treatment of this numerous class of cases may very conveniently be considered under two heads, according as the delay takes place in the first or second stage of labour. This distinction is not only useful in simplifying details, but is found to be one of very essential importance, both as regards the practice and prognosis in every case of protracted labour; for the danger of delay in the first stage, and particularly if the membranes be unbroken, bears no comparison to what it is in the second. In all clinical reports of tedious labours, omission to particularize this circumstance materially detracts from their value and interest. Dr. Churchill, we believe, is the only author who has attached to this point its full share of importance, or has been at any pains to establish it by statistical research.

It has been truly remarked by Denman, "that neither the mother nor child is ever in any danger (excepting cases of hæmorrhage and convulsions), on account of the labour, before the membranes are broken; and that there is infinitely more caution required to avoid breaking them too early, than there is difficulty in breaking them when necessary." Of the force and truth of these observations we are fully persuaded; indeed there can be no doubt but that the case is extremely rare, and then generally the result of bad management, where it is necessary to use instruments in the first stage, on account of delay in the labour, except where there exists a mechanical impediment to the advance of the head, by which the latter is prevented from pressing upon and dilating the os uteri.

In all cases of tedious labour that have come under our observation, where the *first stage* was unusually prolonged, the cause almost invariably has been a rigid unyielding condition of the os uteri. These cases occurred exclusively among primiparous females, and more commonly those in whom the membranes had ruptured

at an early period of the labour. It does not always follow, however, that the premature escape of the waters will render the dilatation of the os tardy; for if parturition should not set in for two or three days after this event, the process is not likely to be materially influenced by it. Dr. Denman alludes to this fact in the following words: "After the rupture of the membranes, many hours, or several days sometimes pass before the accession of labour; and the difficulties arising from this cause, even in first labours, will then be very much lessened or prevented if the patient have generally lain in a recumbent position; and we have deferred, as far as was in our power, the coming on of the action of the uterus till the most perfect disposition to dilate was previously assumed by the parts."—p. 240.

Dr. Dewees also notices and endeavours to explain the fact. He writes: "We may, therefore, safely, we believe, lay it down as a general rule, that the early rupture of the membranes does not necessarily produce a more painful or tedious labour, unless the uterus is by this means immediately excited to contraction; for should no pain be immediately produced, or should the legitimate pains of labour have proceeded, this operation will, all things being equal, be as in ordinary cases." Again, in another place, he says: "If an unusual degree of pain be excited by the premature escape of the waters, it is not because the membranes and liquor amnii fail in their wedge-like agency to dilate it, but because the uterus is prematurely excited into action, and of course before all the terms of pregnancy have been complied with, the waters, while retained, serving to insure an equal distention of that part of the uterus we have agreed to call its neck in the unimpregnated state, and which, during labour, is the part which is obliged to relax, that the child may escape from the general cavity of this organ." If these views be correct, it would follow, as a consequence, that the escape of the liquor amnii, after the true pains of labour had set in, would not materially, or at all, predispose to rigidity; but we think there are few practitioners whose experience will not incline them to adopt a very opposite opinion.

The advanced age of a female in her first pregnancy is very justly laid down as a predisposing cause of rigidity of the mouth of the womb; but to the rule that the difficulty and

delay will be proportioned to the age of the patient there decidedly is a limitation, for experience has shown that the maximum of resistance in the soft parts is between the ages of about thirty and thirty-eight. After this period, the tone and firmness of the animal fibre begin to diminish, and hence the os is not so capable of offering that degree of resistance which it frequently does at an earlier age.

In the Lying-in Hospital, the treatment of these cases, where labour is retarded from the rigid and undilatable state of the os uteri, consists chiefly in the use of tartarized antimony, venesection, and the warm bath; but it is, of course, considered a most important point to have the bowels well freed in the first instance. Of the respective value of these remedies we may be permitted to state briefly the result of our experience. In point of efficacy blood-letting is certainly entitled to the first place, though, it is not, perhaps, so generally admissible as the tartar emetic, and more discrimination is requisite in selecting the cases for its successful employment. The instances where we have observed it to produce the most signal effect, were those in which the patient was strong and robust, with a quickened pulse, and marks of general plethora, where the os uteri was thin, and the head of the child pressed strongly on it, not only during the pain but afterwards. When performed under these circumstances, the result has often been truly astonishing, and has almost inclined us to join in the extravagant praise that Dr. Dewees bestowed upon this agent. It was not always considered necessary that these conditions should all be present before abstracting blood; for even in patients by no means robust or plethoric, if the dilatation of the os did not proceed after giving tartar emetic solution and freeing the bowels, venesection has been resorted to, provided the pulse was such as to render the depletion safe. The quantity taken was regulated by the effect on the pulse and the system at large, and usually averaged about sixteen ounces; very rarely did it exceed twenty. During the operation, the patient was either standing or sitting, and the orifice in the vein was made large, so as to favour the supervision of faintness, which was looked upon as desirable. When deliberating upon the propriety of this measure, we ought not to be deterred from its employment by the patient's expressions of ex-

haustion or debility, but be solely guided by the pulse. Dr. Johnson has told us of cases of this description to which he has been called in consultation, when the practitioner in attendance had been giving wine in consequence of the patient's apparent weakness, and yet the loss of some ounces of blood brought matters to a speedy and successful termination.

Tartar emetic was very much employed for its relaxing effect, being given in almost every case where the first stage of labour was protracted beyond a reasonable time. The ordinary mode of giving it is as follows:

℞ Antim. tartarizat. gr. ii.
 Aquæ distillatæ ℥ vi.
 Tinct. Opii. ʒi. M.

Of this mixture a table-spoonful is given every hour or half hour, until nausea and vomiting be induced, when its administration may be omitted, and if requisite resumed again. We have never witnessed any unpleasant consequences from its exhibition. If diarrhœa or spontaneous vomiting be present, the antimony is not had recourse to, as in the one case it would be injurious, and in the other useless.

Before using this remedy in any case, it is a matter of considerable importance to determine whether the patient be in actual labour or not; because if the pains are merely of a spurious character, and that the presenting part exerts no permanent pressure on the os (supposing the membranes to be broken, as usually is the case), then, under these circumstances, the medicine is not calculated to do any good whatsoever, but, on the contrary, is rather objectionable. Hence, in the Hospital, it is a rule generally followed, not to commence the tartar emetic solution unless the os be somewhat dilated, or, in other words, until we are satisfied of the existence of true labour pains. In doubtful cases, where the pains appeared of a mixed or irregular character, bleeding has been the practice most commonly adopted, inasmuch as it is calculated to prove beneficial, whether they be true or spurious. Though, perhaps, out of place, we may be permitted to say a word upon the use of opium in the treatment of these tormenting cases of spurious pains. Some

practitioners highly recommend its exhibition, but experience has convinced us that to use it with advantage requires more circumspection and prudence than one would be led to imagine from the way in which it is generally spoken of. It was never given except when the pains were of a decidedly spurious character, and even then not until after the bowels had been well freed, and in some instances blood-letting performed. It was administered by the mouth, or in the form of enema, and the natural hour of sleep was the time generally preferred for giving it.

In cases where the degree of rigidity of the os uteri is so great as to resist the influence of tartar emetic and bleeding, &c., the warm bath is had recourse to; but it is scarcely necessary to mention that should the patient be in a state of much debility, or should a disposition to hæmorrhage, or any head affection, be present, it would be quite a sufficient reason for abstaining from the practice. The temperature at which it was used has been 98 Fahr., or thereabouts, and the patient was allowed to remain in it for the space of twenty or thirty minutes, according to its effect on her strength and pulse; when taken out, she was put into bed. The bath is particularly useful if there should be any local soreness of the abdomen complained of. We can safely affirm that, when used under the conditions just described, no hæmorrhage, or any other unpleasant consequence, is likely to ensue; such, at least, is the conclusion to which our experience leads us. In some instances it has succeeded to our entire satisfaction. We have said that it is a mode of practice never resorted to except in cases of obstinate rigidity, which had proved rebellious to every other treatment; and from this it will be anticipated that the number of instances in which it has been necessary to employ the bath, is extremely limited, being for the three years of this report, on an average, about one out of every thousand labours. From the result of Case 211, and also of another which came under our observation in the Hospital, in both of which the warm bath was used, the impression was made on our minds, though, perhaps, without sufficient reason, that it excited an injurious effect upon the fœtus. The facts of the latter case are briefly these: a patient in her first labour got a warm bath on account of persistent rigidity of the os uteri, after thirty-five hours' illness, and the ineffectual use of the usual means for removing this cause of delay. Up to the time of her entering the

bath, the foetal heart was distinctly audible. Shortly after the immersion, she had a very slight rigor, which was supposed by the attendants to have arisen from the water not being warm enough, and therefore its temperature was raised to 100 Fahr. She was kept in the bath for twenty minutes, and in three hours after was delivered of a girl perfectly lifeless. Upon the point in question, however, it is impossible for us to say anything decided; we merely throw out a surmise to be confirmed or refuted by future observation.

We have met with some instances where the labour process was prolonged, apparently from the anterior lip of the os uteri being caught between the head of the child and the pubis; and this at a time when every other part of the os was fully dilated, and no longer to be felt. This accident has been fully described by our friend Dr. Dwyer.* If the os withstood the natural efforts for any length of time, cautious and gentle attempts were made to push it up above the head in the absence of pain, and to retain it up with the finger till the recurrence of uterine action. This manœuvre generally succeeded, but if it did not, matters were simply left to nature and time, and the patient made to bear the pains on her back. All violence or force was carefully abstained from, as the use of such would be most reprehensible. We have not seen the belladonna applied in any case of rigidity of the os uteri, but one (Case 211.); as Dr. Johnson, from observation of its repeated failure, has no confidence whatever in its powers.†

The *second stage* of labour may be prolonged from several causes, of which the most frequent are inertia of the uterus, disproportion between the size of the child and the capacity of the pelvis, and lastly, a combination of these two causes, constituting a mixed sort of case, by no means uncommon, and in which there is just sufficient locking of the head to prohibit the use of the forceps, but not such as that it could not be overcome

* Dublin Medical Journal, vol. xv.

† M. Chailly, in his Practical Treatise upon Midwifery, speaks favourably of the use of belladonna in rigidity of the uterine orifice. Indeed it is the only remedy, besides incision, to which he gives any distinct consideration. He concludes his description by saying: "This remedy, however, is not infallible; I have frequently used it unsuccessfully, and whenever I have known it to succeed, it has acted immediately."—(Translation by Dr. Gunning S. Bedford, New York, 1844.)

by good uterine action. In the management of tedious labours, the principal objects to be kept in view are, firstly, to support the strength by mild nourishment, and to prevent unnecessary fatigue or exertion, and, secondly, to remove or lessen every cause which may tend to the production of fever or inflammation. In attaining the latter object, the bowels must be kept free, the room cool; all stimulating food or drinks should be withheld; and the catheter must be employed, should there be retention of urine.* Vaginal examinations should also be avoided as much as possible. Of the remedies employed for delay in the second stage we shall now speak, commencing with the Ergot of Rye. This medicine, from its power of stimulating the uterus, and increasing the energy of its contractions, is pretty extensively used in this Hospital in cases of arrest, and in the treatment of hæmorrhage after the separation of the placenta. At present we shall confine our observations to its employment in tedious labours, stating the circumstances under which it was given, and the degree of estimation which is here set upon it.

The cases of tedious labour in which, almost exclusively, it has been employed, arrange themselves into three classes. The first, and most numerous, includes those instances where delay occurred in the second stage solely from inert uterine action, and "where," to use the language of Professor Murphy, "although the head ceases to advance, the cause either does not depend upon disproportion in the pelvis, or, where disproportion exists, it is not so great as to render the delivery of a living child impossible."

These "cases of arrest," as they are appropriately termed, are by far the most favourable for the exhibition of ergot, as at any moment after its administration delivery can be effected by the vectis, or forceps, should such become necessary, in order to save the child. It is with extreme reluctance, and only when impelled by unavoidable necessity, that the secale is ever given here in any other cases than these; for, independent of considerations

* Experience has convinced us that, except for diagnostic purposes, the gum elastic male catheter, of about No. 8 or 10 size, is infinitely superior to any other. In performing the operation, one hand only need be used, and the woman is placed on her left side, with the knees drawn up, as being the most delicate, and by far the most convenient position.

towards the mother's safety, experience has amply proved that the child will undoubtedly perish unless delivery be accomplished within a limited time after having exhibited the ergot, and therefore it is an important desideratum that the use of the forceps be feasible before resorting to the administration of this remedy. Thus, to use the words of Dr. Johnson, "when ergot is given it brings matters to a crisis; for if the child be not delivered within a certain time, it will, in all probability, be destroyed." The period during which it is safe to wait, and beyond which delay cannot be permitted with impunity to the life of the fœtus, varies in every case, and can only be known by carefully observing with the stethoscope the changes that take place in the fœtal cardiac sounds. As long as they remain unaffected there is no necessity for hastening the delivery; but if they become diminished in frequency, and depressed in strength, and if at the same time there should be any irregularity or intermission in the beats, then no time is to be lost in terminating the labour, as the delay of a few minutes, under these circumstances, will decide the child's fate. Dr. Beatty states, that "he is inclined to place two hours as the limit of safety, and to consider a prolongation of labour beyond that period as perilous to the infant."* Dr. Hardy, in his paper on the effects of ergot,† writes, "that to this rule" (of Dr. Beatty's) "he has met with but three exceptions. It by no means follows from this," he continues, "that a period of two hours should elapse from the exhibition of ergot until the expulsion of the child. In two instances the children were lost, although only twenty minutes in one, and twenty-five in the other, had passed from the administration of the ergot to their expulsion."

With respect to the changes produced in the fœtal pulse after ergot, there is a practical inference to which our observations have led us, namely, that in those instances where its frequency has been steadily reduced below 110, and, at the same time, *intermittent*, the child will be rarely, if ever, saved, although its delivery should be effected with the greatest possible speed. The mere depression of the fœtal heart's pulsations below 110, *without intermissions*, would not, we think, be sufficient grounds for

* Dublin Medical Journal, vol. xxv. p. 218.

† Vol. xxvii. of same Journal.

such apprehension, because cases have occurred under our notice where the number of pulsations was still more reduced (in one so low as 56), and yet, by prompt delivery and adoption of the usual remedies, the children have been saved; but in none of these instances was there a well-marked intermission. From the foregoing observations it may be plainly seen that a very high degree of importance is here attached to the use of the stethoscope in all cases of tedious labour where ergot is employed; in fact, its administration is never undertaken without the utmost care being used in the auscultatory examination of the foetal heart, both at the time and subsequently; for by making successive stethoscopic examinations at short intervals after giving the ergot, and closely watching any change that may take place in the character of the foetal heart's sounds, we shall have the earliest intimation of threatened danger to the child, and, by the timely intervention of art, be able to rescue it from a position which will inevitably prove fatal, unless prompt delivery be effected. We have repeatedly witnessed the advantage of auscultation in these cases, and had the gratification of seeing children extracted alive, who, we are satisfied, would have perished had there been no such unerring guide to indicate the precise moment at which to interfere, and beyond which any delay was attended with infinite hazard. In the following cases it was necessary to deliver with one or both blades of the forceps after giving ergot: Cases 3, 40, 56, 80, 81, 91, 110, 136, 141, 150, 165, 169, 184, 185, 202, 212, 222, 250, 254. The history of each of these will be found further on.

The second class of cases were those in which the foetal head, without any discoverable pelvic deformity to account for it, became arrested in the brim of the pelvis, and remained in this position until bad symptoms began to develop themselves. Under these circumstances, if the foetal heart were at all audible, the ergot of rye was administered, in the hope that it might bring the head within reach of the forceps. It may be inferred from what has preceded, that the ergot was very reluctantly given in these cases, and that it was the accession of bad symptoms only which prompted its employment. Examples of this class were extremely infrequent, and almost invariably occurred amongst primiparæ.

The third class of tedious cases, where the ergot has been had recourse to, includes those instances in which unfavourable symptoms, calling for delivery, manifested themselves whilst the foetal heart was still audible, but where the use of the forceps or vectis was inadmissible. It is not to be supposed from this, however, that these were cases of obvious pelvic deformity, or impaction of the head, properly so called; if such had existed, it is needless to say this line of practice would not have been pursued. The use of the forceps or vectis was prohibited from the insufficiency of space, and from the state of the soft parts being such as to render their employment hazardous in the extreme, and calculated to expose the patient to the imminent risk, if not positive certainty, of frightful laceration or sloughing of the vagina; and this, too, with a very remote chance of rescuing the infant. From the known influence of ergot upon the child, if delivery be delayed beyond a certain time, it was never given in any of these cases till the powers of nature had been fairly and fully tried, and in fact until it became obvious that the preservation of the mother's life peremptorily called for assistance. The considerations which led to its employment under these circumstances may be thus briefly stated: 1st, that the mother's safety demanded interference; 2nd, that the child was living; 3rd, that the use of the forceps or vectis was impracticable; and lastly, that though the degree of disproportion, together with the state of the vagina and os externum, were such as to render the application of the forceps highly imprudent, if at all practicable, yet it was reasonable to suppose, that by energetic uterine action delivery might be effected: at all events it was giving the child the only remaining chance, and in a few instances we had the satisfaction of seeing the desired result ensue.

The reader cannot fail to perceive, that this class of cases are of the mixed kind before alluded to, and hold an intermediate place between cases of actual impaction of the head, or "enclavement," as the French call it, and those of simple "arrest," of which our first class is composed. Cases of this mixed description occurred, with hardly a single exception, among primiparous women.

We have not thought it necessary, in these remarks upon

ergot, to enter into any formal detail of the conditions which should be present in every instance before exhibiting it, or of the symptoms that would contra-indicate its employment, as these are now generally understood, and clearly laid down by most modern authors.

Before dismissing the subject, it may be well to mention the doses in which the ergot has usually been given here, and also the mode of exhibiting it. Half a drachm of the fresh powder was infused in half a small cupful of boiling water for ten or fifteen minutes, when it was strained: to the strained infusion were added ten or fifteen grains more of the powder, with some sugar (to make it palatable); this constituted the ordinary dose, and it was repeated in about twenty-five minutes, if thought requisite: a third dose was seldom given. Some of the other preparations of ergot have been used, as the tincture, the extract, the ethereal tincture, &c., but they were not found to answer the purpose so well as the powder. The only objection to the powder is its great liability to spoil by keeping; on this account it is always an essential object that it shall have been recently made.*

When the ergot acts at all, we have usually remarked that it does so within fifteen minutes from the time of its administration. If a bad description of ergot be used, it may naturally be expected that it will produce little or no effect. This, we believe, is the most common cause of its failure; but there is another not generally known or recognised, namely, where it is given at a very advanced period of a difficult labour, when the pains have nearly entirely ceased, and the vaginal discharge has become fetid and olive-coloured. Under these circumstances the drug rarely exerts any influence in bringing about a return of the pains; in fact it would seem as if the muscular irritability of the uterus had been completely exhausted. It by no means follows as a

* The following preparations of Ergot of Rye are made by Messrs. Bewley and Evans, of this city, viz.:

1. Tinct. Secal. Cornut. Dose ʒss. to ʒii.
2. Tinct. Secal. Cornut. Æther. Dose ʒss. to ʒi. ss.
3. Liquor Secal. Cornut. Dose ʒss. to ʒi.
4. Extract. Secal. Cornut. Dose gr. ii. gradually increased to gr. iv.

We have tried some of the above, but our experience is as yet too limited to justify our drawing any conclusions respecting their practical value.

consequence that the ergot will not act on the child because it does not act on the uterus, for we have seen numerous instances where the child was unquestionably affected by it, although the uterus was wholly unaffected, or nearly so. We have on many occasions observed the ergot of rye to exercise a very depressing influence upon the maternal circulation, lowering the rapidity of the pulse ten or twenty beats per minute. In some few instances this effect lasted for two or three days.

We shall now enter upon the consideration of the practice of this Hospital, as regards the use and choice of instruments; but before doing so it is necessary that we make some remarks upon the evidence afforded by auscultation, of the life or death of the fœtus during labour, and the circumstances under which information derived from this source is worthy of being implicitly relied on. We have already alluded to the vast importance of careful auricular examination of the fœtal heart after giving ergot, and shewn the necessity that exists in those cases for closely watching its pulsations, so as to know precisely the moment when interference becomes requisite to insure the preservation of the child. Now with respect to the advantage of auscultation in the cases at present under consideration, we cannot better express our sentiments than by quoting the language of Dr. Collins: "I know of no case," he writes, "where the advantage derived from the use of the stethoscope is more fully demonstrated than in the information it enables us to arrive at with regard to the life or death of the fœtus, in the progress of tedious and difficult labours. It is, in my opinion, one of the greatest improvements that has been made in the practice of midwifery; and what adds much to its value is, that an acquaintance with its application is not so very difficult of acquirement to any one whose hearing is unimpaired, it being only necessary the ear should be accustomed to the sounds for some time to be able to apply it with advantage. Heretofore we were, in a great measure, ignorant of the time at which death took place; and the practitioner, imagining the child alive, from want of satisfactory evidence of its death, delayed interfering, until his patient was in the greatest possible danger; whereas had he been assured the child was dead, he would have delivered her before life became actually hazarded,

and thus prevented her not only enduring for hours, but even days in some instances, the most torturing pain, the result of which continued suffering was not unfrequently death, or, what was perhaps worse than death, extensive sloughing of the urethra or of the recto-vaginal septum, establishing a communication between these two cavities, reducing the unfortunate sufferer to a state of extreme misery."*

It may and has been urged, that the information obtained by the stethoscope being of a negative kind, ought not, therefore, to be acted on. But the force of this objection depends entirely on accompanying circumstances. Thus if the first examination for the foetal heart be not made till an advanced period of the labour, when bad symptoms are beginning to arise, then indeed the absence of its characteristic sounds is not entitled to the rank of positive evidence of the death of the child; unless the auscultator be one of very acute hearing and well accustomed to such investigations: and even then it only amounts to a probability, and as such cannot exercise a very decided influence upon the practice. But, on the other hand, if repeated stethoscopic examinations be made at intervals throughout the labour, and if it be observed that the foetal pulsations, from having been distinct and normal, gradually become weak and rapid, and that as labour advances they undergo a further change of character, so that it is with extreme difficulty they can be recognised at all, and that finally, if at a still later period the most careful examination, conducted with the same regard to accuracy, and made by the same auscultator, altogether fail to detect them, then, under these circumstances, we emphatically maintain, that the inaudibility of the foetal heart's sounds affords conclusive information of their cessation, and consequently of the child's death. Before the complete subsidence of the foetal cardiac sounds, we have observed them to undergo certain changes in character, of which the most prominent, as well as the most constant, is a gradual failure of their strength and intensity; some time after this alteration has taken place they generally increase in frequency, and then begin to intermit or become irregular, soon after which they usually cease

* *Op. cit.*, p. 18.

to be heard. The lapse of time necessary for this progressive series of changes to take place varies considerably in different cases, but we have very rarely found it to occupy less than four or six hours. During the progress of these alterations the sounds will always be found most feeble and depressed immediately after a pain, but before the recurrence of another uterine contraction they will have become somewhat louder and more frequent.

The diagnostic value of the stethoscope in the cases we are at present considering, as well as in many others where it is used for the recognition of disease, depends almost entirely upon the result of *comparative observations*, and not on that of any solitary application of the instrument. "If we compare the effects produced by ergot of rye and by difficult labour on the foetal heart, this difference will very generally be found to exist,—that the latter occasions a rise in the frequency of its pulsations, whilst under the influence of ergot an opposite effect is almost invariably observed. It is a remarkable coincidence that the same depressing effect is very constantly produced by this medicine on the maternal circulation."* We have heard it argued that the child might, perhaps, retain vitality at a time when the sounds of its heart can no longer be heard. To this opinion, which is quite gratuitous, the whole tenor of our experience is completely opposed; nay more, we have good reason for believing that the foetus is reduced to a state past recovery before the pulsations of its heart have ceased to be audible.

In speaking about the use of obstetrical instruments, there are two distinct considerations which, for the sake of clearness and precision, it is well to keep separate in our minds, though in practice they are intimately linked together. One of these has reference to the *state of the patient, or the circumstances attending her labour that call for instrumental aid*; whilst the other relates to the *physical conditions essentially necessary for the safe use of the instrument*. Thus the conditions essentially necessary for using the forceps with safety, may be, and often are, present, and yet the state of the patient, or the circumstances of her labour, be such as to ren-

* From Dr. M'Clintock's "Memoir on the Use of Auscultation in the Treatment of Labours," Dublin Quarterly Medical Journal, vol. iv. p. 34.

der instrumental interference wholly unjustifiable. It is obvious, then, that these two data should always be present before resorting to the use of any kind of instrument, otherwise its employment can only be regarded as a departure from the rules of sound practice, and as such must involve unpleasant or disastrous consequences.

Vectis.—By referring to the table appended to this chapter, it will be seen that the vectis was here very frequently substituted for the forceps. It sometimes happens that the vectis will fail in accomplishing delivery, even though used by skilful and experienced hands, and where the case seemed well adapted for it; under these circumstances it has to be withdrawn, and the forceps applied in its stead. This is a great objection to the instrument, but one which may be entirely obviated by using as a vectis one blade of the forceps, the advantage of which is, that if delivery by this means be found impracticable, it is only necessary to pass up the second or sacral blade, and, having adjusted it, to fix the lock, which being done the operator may proceed as in an ordinary forceps case. This was the practice usually followed here, and in nearly all the vectis cases which we have recorded it was a blade of the forceps that was employed. From what has just been stated the reader may perceive that the time for employing this instrument, and the manner of its introduction, are in strict accordance with the directions of Denman; but in the further steps of the operation it has been used more as an extractor than as a lever. For the effective use of the vectis it is generally found needful for some uterine action to be present, but it matters not though this be small in amount, for the introduction of the instrument seldom fails to increase the strength and frequency of the pains. In cases of complete suspension of uterine action, and also in convulsion cases, or where the patient was very irritable and restless, the forceps were preferred. It is hardly necessary to remark, that the vectis (or one blade of the forceps) was never used except in cases that would equally have justified the use of the forceps. So far this accords with the experience of Denman, who, after recommending the instrument in cases similar to those we have described, remarks: "Being ever afraid

of sacrificing safety to dexterity, I only pretend to describe a method of using this and all other instruments securely and efficaciously, and must therefore be excused from commenting further on all that has been unadvisedly objected against, or advanced for, the use of the vectis, under various circumstances."

Forceps.—The short, straight forceps have been exclusively used here since Dr. Johnson became Master of the Hospital (now a period of nearly seven years). Its shape and dimensions are these, viz.: length in a direct line from the extremity of the handle to that of the curved blade, $11\frac{1}{2}$ inches; greatest width between inner surfaces of blades, when closed, 3 inches; length of each blade, 7 inches; distance between the extremities of closed blades, $1\frac{3}{8}$ inches. The greatest width between the blades is nearer their extremities than handles, the object of which is, that the perinæum may not be in danger of laceration before the head be so far expelled as to permit the removal of one or both blades. The direct length of each blade we have stated as 7 inches; if the measurement be taken along the curve, however, it will be a shade beyond $7\frac{3}{8}$ inches. The advantage of having the blades so long is chiefly this, that when applied the lock is in sight of the operator, and therefore the soft parts of the mother are not in any danger of being nipped or otherwise injured. This increased length to the blade is given in the neck of the instrument, or that part which intervenes between the fenestrum and lock; the advantage of such a construction was first pointed out, we believe, by the late Dr. Davis. It would be superfluous to enumerate the circumstances that called for the use of the forceps in the several cases contained in our Report, as these will be seen upon their perusal; but we think it may be well to state the conditions that were here considered essentially requisite in order to use the instrument with safety and advantage, as this is a point of the greatest importance, and one upon which there exists, unfortunately, considerable difference of opinion amongst accoucheurs; nor can it be so much wondered at, when we reflect that the solution of this question very often involves that of the choice of instruments,—confessedly one of the most difficult and embarrassing in the practice of midwifery, and one that, to decide aright,

requires the exercise of a sound judgment matured by ample experience.

The conditions which were considered indispensable in order to render the forceps applicable, and those, in fact, without which they were not used, are the following:

1. That the child be alive; or else, in the absence of positive proof on this head, that there be no reasonable ground for supposing it to be dead. When it is known (as in the vast majority of cases can be ascertained) that the child is dead, the forceps is never employed, no matter how favourable the case may be for its use. "To apply the instrument," says Dr. Lee,* "when it is known with absolute certainty that the child is dead, would betray, to use the mildest expression, the highest degree of insensibility and folly." The same is also strictly enjoined by Dr. Davis,† who says: "Inasmuch as the forceps cannot be used without exposing the mother to some degree of inconvenience, if not positive injury of structure, it should never be employed for delivering dead children." To cite authority on this subject is almost unnecessary, as common sense and reason both point out the justness and propriety of the condition.

2. That the head have remained stationary, within reach of the forceps, for six hours at least. This rule,—laid down by Denman, and followed by most accoucheurs,—is excellent as a "corrector of practice," but, being a rule of time, it has not been rigidly adhered to in all cases, as for instance under the existence of any pressing complication, such as hæmorrhage, convulsions, &c.

3. That the membranes be ruptured and the os uteri fully dilated. The importance of this condition is self-apparent, and has been recognised by all sound practical men.

4. That the head of the child be so circumstanced that the ear can be distinctly felt, without the use of any force or violence on the part of the examiner. This is unquestionably a most essential condition for the safe and successful employment of the instrument, and it is one to which very much weight is here attached.

* Lectures, p. 301.

† Operative Midwifery, p. 45.



Corroborative information on the point may sometimes be derived from passing a catheter into the bladder: if there be much resistance to its introduction, owing to compression of the urethra by the foetal head, it clearly shews that a greater or less degree of impaction is present. When the ear cannot be reached or felt without difficulty, the case will very rarely admit of the forceps; at least such is the result of our experience here, and it is borne out by the more extended observation of Dr. Johnson. A similar opinion is entertained by some of the highest authorities on this, or indeed any other subject connected with practical midwifery. Thus, Dr. Merriman writes: "No case can be esteemed eligible for the application of either of these instruments (forceps and vectis), unless the ear of the child can be *distinctly* felt."—(p. 156). Dr. Collins, also, in his "Practical Treatise," expresses himself to the same effect; and Dr. Lee, in his published Lectures, uses the following very unequivocal language: "If the head is so firmly impacted that you cannot pass the fingers not only to the ear and side of the head, behind the front of the pelvis, but completely around the whole head, you will do nothing but mischief with the forceps."—(p. 308). Though we do not go the full length of Dr. Lee, yet we think it right to make the quotation, just to shew what his sentiments are upon the point in question.

5. That the state of the soft parts be such as denotes the absence of inflammation; in other words, that they be free from undue heat, dryness, tumefaction, or morbid sensibility. The exact extent to which these unfavourable conditions may proceed, and yet be compatible with a judicious employment of the instrument, can only be estimated by experience, and a just appreciation of all the attendant circumstances. In cases of pure arrest, we have seldom seen symptoms of inflammation of the vagina to manifest themselves within the time that it was proper to wait before giving instrumental assistance; but where there was any slight degree of disproportion present they developed themselves much more quickly. In hospital practice, where patients are unavoidably more subjected to vaginal examinations than in private, this inflammatory state of the soft parts supervenes at an earlier period, and must, therefore, tend in some

measure to render the forceps less frequently applicable than with patients whose means admit of their being attended at home. In the introduction of the first blade, Dr. Lee advises "all the fingers to be passed completely over the side of the head, so as to feel the ear, and to determine positively to which side of the pelvis the occiput is situated." We have never found it necessary, however, to deviate from the instructions laid down by Denman; and where the ear could be distinctly felt with one or two fingers, there seldom was any difficulty in determining the exact position of the head; for the side of the pubis it lay next shewed in which of the oblique diameters the long axis of the head lay; whilst the direction of the pinna and helix indicated whether the occiput was in front or behind, thereby distinguishing between the first and third, and the second and fourth positions.

Respecting the Long Forceps we have already intimated that it has not been had recourse to in the Hospital, as Dr. Johnson entertains the most decided objection to its employment. To enter into any discussion upon this subject would be foreign to our present purpose and the object of this work, and might therefore draw down on us the imputation of presumption. Putting out of the question all considerations as to the danger incurred by the use of this instrument, we would simply remark, that we have only seen one instance where the fœtal head, independent of disproportion, and after the full dilatation of the os uteri, remained out of reach of the short forceps for any lengthened period, or until bad symptoms became developed. In this solitary case a dose of ergot had the anticipated effect of causing the head to descend further into the pelvis, whereby the short forceps became applicable, and were used to save the child, but unsuccessfully, as it was still-born.

From the remarks that have been already made upon ergot, the forceps, and auscultation, the reader may be able to form a tolerably accurate opinion of the cases in which the use of the Perforator and Crotchet was resorted to in preference to other modes of delivery: it is, therefore, now unnecessary to dwell at any length on this subject, so we shall confine ourselves simply to the consideration of the following propositions:

Firstly, that in the vast majority of instances the death of the foetus during the progress of a tedious labour can be positively ascertained by the aid of the stethoscope.

Secondly, that of all the perforations for difficult labour which we have recorded, the number of cases in which we were not fully assured of the child's death before undertaking the operation does not, altogether, exceed three.

Thirdly, after it was found that the child had perished, in the course of a laborious labour, it was not the practice of the Hospital to wait for the full development of bad symptoms before using instruments, as nothing could have been thereby gained, and the patient's life might have been compromised by such culpable procrastination.

Respecting the first of these propositions, we would remark, that it is not a mere assertion, but a fact, of the truth of which we have fully convinced ourselves by very extended observation, so far confirming what Dr. Collins has advanced upon this subject. Let it be understood, however, that it is only in those cases where opportunity has been afforded of making *comparative observations*, that the child's death can be pronounced upon with certainty. We have, in a former page, spoken at considerable length of the rules to be attended to in order to gain precise information of this event, so need not again repeat them.

Here we cannot repress our firm persuasion that of all the benefits resulting from the introduction of auscultation into midwifery practice generally, none are more important than those derivable from its use in tedious labours. Nor are its great advantages restricted to these labours; for, when using ergot of rye, as we have already seen, and also in convulsion cases, and in the diagnosis of ruptured uterus, as shall be noticed hereafter, the study of the foetal heart's sounds furnishes a source of information truly valuable, and calculated to exert much influence upon the prognosis and practice.

We are desirous to urge this subject upon the earnest attention of practitioners, because the importance of the stethoscope in the treatment of labours does not yet seem to be fully appreciated, nor has it received in the writings of obstetric authors that share of consideration which its intrinsic merits so justly deserve. From

this charge must be excepted the works of Dr. Collins and Dr. Kennedy, whose valuable contributions on this subject alone entitle them to the highest praise. It has been asserted that after the death of the fœtus the placental souffle either ceases altogether, or undergoes a change of character recognisable by the ear of a practised auscultator. It is very much to be wished that such were the case, as we should then be in the possession of a *positive* sign of the child's death; but candour obliges us to confess, that after making numerous trials, and having bestowed considerable attention on the point, we have never yet been able to detect any peculiarity in the *brûit placentaire* by which we could be led, in the remotest manner, to suspect that the child was dead. The same opinion is also expressed by Dr. H. F. Nægèlé, in his treatise upon "Obstetric Auscultation."* The second proposition is put forward as a simple matter of fact, on the truth of which every reliance may be placed; and, at the same time, we would respectfully submit our opinion, that the number therein stated is very small when considered as the result of so numerous a range of cases, all of them occurring in hospital practice, a circumstance which, as every practical man knows, in itself necessitates earlier interference than would be required elsewhere.

An objection, though, truly, a very weak one, has been advanced against the use of the stethoscope in difficult labours; namely, that the evidence it affords of the child's vitality might induce the accoucheur to put off giving assistance too long, or till the woman's symptoms had assumed so formidable a character as to render the operation fruitless. But cases of this kind are of extreme infrequency, and cannot at all be put in comparison with the numerous assemblage of instances where the careful employment of auscultation enables the practitioner to recognise the moment when he may with safety and advantage, and without the least repugnance to his conscience, bring the labour to a termination, and thereby save the patient a vast increase of danger, and

* Translation by Dr. West. M. Stoltz (of Strasburgh) has described a uterine sound, which he only observed when the child was dead, and which he attributes to the decomposition of the liquor amnii. He characterizes it as "*un bruissement sourd et irregulier, comme un bruit,*" &c. This sound, or anything approaching to it, we have never heard.

hours, perhaps, of unprofitable pain and anguish, that could, at best, issue only in disappointment.

The experience of Dr. Johnson and ourselves corroborates the testimony of Dr. Collins, "that where the patient has been properly treated from the commencement of her labour,—where strict attention has been paid to keep her cool, her mind easy,—where stimulants of all kinds have been prohibited, and the necessary attention paid to the state of her bowels and bladder,—that under such management the *death* of the *child* takes place in laborious and difficult labour, before the symptoms become so alarming as to cause any experienced physician to lessen the head."* We have seen very few examples of difficult labour where the foetal heart continued audible after the full development of bad symptoms, and some of these were patients who had been subjected to improper treatment before coming into the Hospital.

The third proposition contains simply an enunciation of the practice of the Hospital in a particular class of cases, and to it no reasonable objection whatever can be made, unless, indeed, our first proposition be disproved, which we confidently deem to be scarcely possible. At first we felt considerable reluctance to using the perforator before the symptoms had become really pressing and urgent, although the succession of changes and ultimate inaudibility of the foetal heart had been attentively observed; but these prejudices gradually gave way when our personal experience had convinced us, that implicit reliance might be placed on the stethoscopic indications of the child's death.

One or more hours, according to the character of the symptoms, were usually allowed to elapse, subsequently to the cessation of the foetal cardiac sounds, before having recourse to the operation of craniotomy; and even in this short space of time we have frequently remarked the funis to have undergone a change of colour and appearance, which satisfactorily demonstrated that its vitality must have ceased at the time pointed out by the stethoscope. We have often had occasion to remark the extreme rapidity with which putrefaction advances in the second stage of labour, or after the membranes have been ruptured: in fact, decompo-

* Op. cit. p. 16.

sition will sometimes, under these circumstances, make as much progress in the course of a few hours, as would have required days to effect had the membranes remained unbroken. Nor can this be wondered at, since the most favourable conditions for putrefaction are present, viz., heat, moisture, and the access of atmospheric air.

In concluding this part of our subject we would express an anxious hope, that what we have said relative to the stethoscope may not be misunderstood, or our intention misconstrued. To assign it that place to which, as an auxiliary in obstetric practice, our experience leads us to think it is justly entitled, has been our sole object. We cannot repress our conviction, notwithstanding the many and great benefits which have resulted from the introduction of auscultation into the practice of midwifery, that future observation will still further increase the sphere of its utility, and the range of cases in which it may be advantageously employed.

The total number of Tedious and Difficult Labours in this Report amounts to *two hundred and fifty-nine*. Of the leading facts relating to these we shall now give a short analysis, whilst at the end of the present section the reader will find the entire number arranged in a tabular form.

One hundred and seventy-three were delivered without any instrumental assistance. Of this number *thirty* got ergot of rye, to overcome inertia in the second stage of labour, and only ten out of the thirty children were born alive. This furnishes strong proof, were any such required, of the deleterious influence of ergot upon the fœtus, as in nearly every one of the above instances there was unequivocal evidence of the child's vitality when the ergot was given, and in the great majority of them delivery took place within two or three hours after the administration of the medicine. The respective numbers of these ergot cases in the general table are as follows: Nos. 1, 2, 7, 10, 37, 49, 51, 53, 59, 75, 79, 83, 93, 95, 112, 117, 119, 124, 128, 159, 175, 180, 190, 225, 238, 241, 242, 244, 247, 252. It will be seen that no death occurred to the mother amongst these cases.

In *fifty-two* instances delivery was effected by the perforator and crotchet; in *eighteen*, by the forceps; and in *sixteen*, by the vectis, or lever.

In *eighty-eight* cases the principal delay was in the first stage; in *one hundred and nineteen*, in the second stage; and in *fifty-two* cases both stages were protracted.

Twenty-two women died out of the two hundred and fifty-nine, and *nineteen* of these fatal cases were primiparous women. Of the children we find that *one hundred and fifty-four* were boys, of whom *eighty-three* were born alive, and *one hundred and five* were girls, of whom *fifty-six* were born alive. To be concise, we shall divide all the cases contained in the general table into groups, or classes, by which arrangement much needless repetition will be saved in recording them; and first, of those cases where delivery was accomplished without any instrumental assistance.

No. 19 in general table.—A. D., ætat. 27. First labour; thirty-six hours ill. The chief delay was in the first stage, owing to rigidity of the os uteri, to remove which condition the solution of tartarized antimony was freely given. The child, a boy, was born alive. The hand had to be introduced for the placenta, which was retained from morbid adhesion. This woman was attacked with puerperal fever on the second day, and died on the fifth. In the abdomen was found serous and lymphic effusion, and in the substance of the *uterus* a considerable quantity of pus, which escaped upon incision.

No. 39.—C. G., aged 27, delivered of her first child July 29, 1842, after a labour of about thirty hours' duration, about two-thirds of which was occupied by the second stage. A very short time before birth the fœtal heart was audible, nevertheless, the child was still-born, and could not be animated. Very soon after delivery, the abdomen became tender on pressure, and, a few hours later, tympanitic. A vein in the arm was opened, but no blood would flow. She got calomel and opium at short intervals, and the bowels were freed by an oil and turpentine draught.

Second day. General symptoms the same; pulse 96; diarrhœa has commenced; no lochial discharge.

To stop the pills.

To have some Dover's Powder.

Mercurial inunction.

Third day. Seemed considerably improved in the morning;

but this amendment proved to be only a temporary remission (an occurrence by no means uncommon in puerperal fever), for towards evening she became much worse; countenance depressed; pulse 112; respiration hurried; and the abdomen exceedingly tympanitic, though not very painful; profuse perspiration, and pain complained of in the cardiac region. Vomiting came on late in the evening, and she was so weak that it was necessary to give her some wine. Purging restrained by opiates only.

Fourth day. Countenance more anxious; pulse 112, and weak; profuse sweating; tongue brown and dry; vomiting; no diarrhœa; no signs of mercurialization. She expired at midnight.

Autopsy, eleven hours after death.—Yellow serous effusion into peritonæal cavity; intestines much distended, and glued together and to the uterus by lymph. *Uterus* well contracted; its interior one mass of dark greyish slough.

As she had some cough on admission, the *lungs* were examined; they presented the usual appearances of bronchitis.

This was a well-marked case of puerperal peritonitis, running rapidly into the second stage, or stage of collapse. The temporary improvement which manifested itself on the third day is, we have mentioned, an occurrence by no means infrequent in puerperal fever, and one that might deceive an inexperienced attendant, and lead him to give a prognosis which in a few hours he would be reluctantly compelled to alter. Hence it may be laid down as a general rule applicable to all cases of this disease, not to calculate much on any amendment in the symptoms, unless it shall have been of twelve or twenty-four hours' continuance. Vomiting was a prominent feature in the above case, and harassed the patient for several hours before death. This is a symptom we have observed to be more characteristic of peritonitis than any other form of puerperal fever. During the short epidemic of puerperal fever which occurred in this Hospital in the spring of 1845, "vomiting during some period of every case was always present, and when it once commenced it generally proved rebellious to every mode of treatment that could be adopted, and continued to harass the unfortunate patient until a short time before her death. Those cases, where it appeared

as an early symptom, were the worst. The matter ejected was principally a greenish or deep yellow liquid.*

No. 44.—A. W., aged 20; delivered of her first child August 30, 1842, after thirty-seven hours' labour. Towards the conclusion of the second stage, when the head was beginning to press on the perinæum, she became emphysematous in the face, neck, and shoulders, the pains at this time being strongly expulsive. Respiration soon after became very much impeded, requiring the abstraction of blood from the arm; by this she was greatly relieved, and in half an hour the child was born. From the time of delivery, the emphysema gradually subsided, and her recovery was uninterruptedly good, insomuch that she was able to go home on the eighth day, at which date the crepitus had disappeared from every part except a small space on the back. Before concluding the cases of tedious labour, we shall have to detail three other instances where emphysema took place under nearly similar circumstances as in that just related; their respective numbers in the general table are 138, 257, and 259.

No. 69.—M. R., aged 31, first labour, delivered November 13, 1842, after twenty-nine hours' illness. Though the delay in this case was in the first stage, it seemed to depend rather upon insufficient uterine action than on any rigid condition of the os uteri. She went on as well as possible until the evening of the second day (twenty hours after delivery), when she had a violent and prolonged rigor, quickly succeeded by great uterine tenderness, and a rapid pulse. The lochia at this time were present, and the bowels had been previously well freed by medicine. She was bled to sixteen ounces, and put on the use of mercury internally and externally.

Third day. Had a bad night; uterus very tender; pulse 140. The same treatment was continued, and the bleeding repeated in the evening, with relief to all the symptoms, and a diminution in the frequency of the pulse, though the skin remained hot and dry.

* "An Account of the late Epidemic of Puerperal Fever in the Dublin Lying-in Hospital," Dublin Medical Journal, vol. xxvii.

Fourth day. Pulse 116; uterus still the seat of much pain and tenderness.

Medicine to be repeated, and twenty-four leeches applied.

Fifth day. Pulse 120; tenesmus and some purging. In the evening the pulse was only 108, there was milk in the breasts, and some lochial discharge.

Sixth day. A return of the abdominal pain during the night, with diarrhœa; mouth slightly affected by the mercury.

A blister to abdomen.

The diarrhœa continued unchecked from this time till that of her death, which event took place the following day.

Autopsy, twenty-four hours after death.—No effusion into the abdomen; a very slight layer of lymph on the anterior part of the uterus: upon cutting into the substance of the organ pus exuded from the divided veins.

This, we think, may be regarded as an acute and very rapid case of uterine phlebitis. The entire absence of vomiting throughout its course is a circumstance deserving of some attention, and also the marked remission in the symptoms that took place on the evening of the fifth day.

No. 98.—M. D., aged 25; second labour. The pains began at 10 o'clock, A. M., of March 17, 1842. At noon the membranes ruptured, and the head and hand were found presenting. In this state she remained till eight o'clock on the evening of the 18th, when she was brought to the Hospital. The os uteri at this time was about the size of a dollar, and the right hand lay posterior to the head. The pulse was 100, but this acceleration was probably the effect of improper management, and the use of over-stimulating liquors. Labour continued active during the night, and on the following morning the os was fully dilated. At this time the pulse was 120, and there was some tenderness on pressure over the uterus. The head and hand were descending, though still high up in the pelvis; foetal heart audible and very rapid. Delivery was effected by the natural efforts at 4, P. M. The child, a boy, was born dead, notwithstanding that the pulsations of its heart had been heard at two o'clock in the day.

Second day. She had a slight rigor early this morning. At ten o'clock the pulse was 140; countenance pale and languid; no pain complained of; lochia red and serous; vagina and perinæum inflamed and extremely painful; tympanitic distension of abdomen. Her bowels were well freed during the day by a dose of oil and turpentine, and the distension of the abdomen was considerably relieved thereby. She was subsequently ordered one grain of calomel and the same of prepared chalk every three hours, and to be rubbed in with mercurial ointment.

In the evening she was directed pills containing half a grain of calomel and one-sixth of a grain of opium, every three hours.

Third day. Purged during the night; tongue of a dark brown colour; abdomen large and tumid, but not painful; respiration tranquil; pulse 145, and sharp. There is a tremulous motion communicated to the head from the violent throbbing of the heart and carotids.

The mercurial ointment to be continued, and the quantity of opium increased in the pills.

In the evening twenty-four leeches were applied over the left side of the uterus, on account of some tenderness being complained of in that situation.

Fourth day. Purged during the night; the stools greenish; tongue dark brown, and dry; thirst; abdomen distended and painful; vomited some bilious-looking fluid. Lochia dark; pulse more feeble, but less rapid.

A large blister to abdomen.

R Acidi Hydrocyanici, gutt. ii.

Guttæ Nigræ, gutt. vi.

Mist. Camphoræ $\bar{\text{z}}$ i. M.

Fiat haustus, ter in die sumendus.

The vomiting became more frequent and distressing during the day. She was allowed to drink rice milk, rice water, and cold chicken broth.

In the evening her pulse was 116; lochia mixed with clots, and of a very dark colour; no disposition to sleep.

Pulv. Opii gr. i.

Fifth day. Had some sleep after the pill; vomited occasionally during the night. She now lies supine, with the knees drawn up; countenance of a dirty sallow colour, with a dark areola round each eye; is very restless, and complaining of pain and uneasiness all over her; she is, however, perfectly collected and rational; pulse 112; tongue same; thirst less urgent; bowels have acted frequently, the motions coming away almost involuntarily; abdomen full and rather tender.

To continue the draughts and inunction.

During the day she was free from vomiting; slept for a short time, and the bowels were twice affected. No mercurial action on the system.

Sixth day. Had a little sleep in the night; hiccough occasionally; pain in the epigastrium; respiration becoming laborious; expression of countenance is worse; had some vomiting, which was relieved by taking two drachms of spirits of turpentine in some sugared water, followed by one grain of opium; tongue dry, and of a mahogany colour; bowels moved once in the night. No lochial discharge; pulse 132, and weaker; complains of severe pain in the lumbar region. During the day the pain in the back was very distressing; she also suffered from pain in the right posterior part of the thorax, rendering respiration difficult; abdomen distended; no diarrhœa; great desire for cold drinks which are allowed her in moderation.

The draught of turpentine and the opium pill to be repeated.

Seventh day. Passed a sleepless and disturbed night; pulse 128, weak, and thready; tongue perfectly dry; bowels quiet; abdomen full, and somewhat tender on pressure; is sinking rapidly. She died at one o'clock in the afternoon, and retained the perfect possession of her faculties up to the moment of dissolution.

Autopsy, six hours after death.—About half a pint of whey-coloured serum in the peritonæal cavity, together with large quantities of lymph, more particularly in the iliac fossæ; *uterus* large; under the peritonæum, at its fundus, there existed two purulent deposits, and throughout the entire of its substance, large quantities of pus were found, nearer in general to the serous than

mucous tissue. The interior of the organ was converted into a dark and sloughy mass; this appearance was most striking at the os uteri. On the posterior wall of the uterus, and corresponding to the promontory of the sacrum, was a large slough, extending quite through the muscular structure. *Ovaries* much softened; *vagina* of a very dark colour, and in a state little removed, apparently, from gangrene. In the sigmoid flexure of the *colon* were large patches of ulceration. The right posterior lobe of the *liver* was enlarged and very much softened in structure; anteriorly it was healthy, but coated with lymph. Much thick black bile in gall bladder.

Yellow serous effusion, with flakes of lymph in right pleural cavity. Left pleura, pericardium, and heart, healthy.

This highly interesting case admits of much comment, and suggests many subjects for consideration; we must, however, restrict ourselves to a few remarks only. That it was a case of peritonitis and phlebitis is sufficiently manifest; but whether, or how far, the former was a consequence of the latter, we do not attempt to decide; the attack of pleuritis, however, may be referred, we think, to this source.

This woman strikingly exhibited that peculiar aspect and colour of face, so strongly characteristic of uterine phlebitis. This appearance of the countenance, which has been designated by Dr. Helm "the puerperal physiognomy," cannot be learned from description, but when once seen, is easy of recognition ever after. On the third day of the report, the presence of a symptom is noted which we have very often observed in acute cases of phlebitis, namely, violent action of the heart and carotid arteries, insomuch as to communicate a very perceptible vibratory motion to the head, even whilst the patient is recumbent. Experience leads us to regard this as a diagnostic of some value.

The combination of prussic acid and black drop, which this patient got, we have often seen to be very serviceable in the treatment of phlebitic cases, when diarrhoea was a troublesome symptom; for, whilst it tended to check this, it also calmed the irritability of the nervous system, and diminished the frequency of the pulse.

No. 138.—It was this woman's first child, and in the second stage of labour, which was rather prolonged, slight emphysema

of the neck and chest appeared. It required no particular treatment, and her convalescence proceeded most favourably.

No. 142.—M. B. Her labour began during the day of August 7, 1843. The membranes ruptured early in the first stage, which occupied about thirty hours; towards its close she was bled to promote dilatation, having got tartar emetic previously. The second stage was completed in six hours, and she was delivered August 9th, at ten o'clock, A. M. The same evening she complained of some pain over the uterus, and was ordered three grains of calomel and an anodyne draught (acet. opii. η xxv.) at bed-time, and castor oil and turpentine the following morning.

Second day. Pulse quickened; uterus painful; lochia deficient in quantity. She was now bled to $\bar{\text{z}}$ xii. and put on the use of mercury.

Third day. Pulse 120; uterus still tender; diarrhœa.

Hirud. xxiv. abdom.

Continue Mercury.

To have an anodyne h. s.

Fourth day. Diarrhœa continuing; tenderness of uterus gone; pulse 138, and weak.

To omit the internal use of Mercury.

Anodyne draught h. s.

Fifth day. No pain; tongue foul and coated; breath has a slight mercurial fœtor; bowels not disturbed in the night; pulse 150, and weak; complains of a feeling of debility.

To have chicken broth.

Anodyne draught h. s.

On the seventh day there was a return of diarrhœa, and the right shoulder and ankle were red, swollen, and painful.

Eighth day. Pulse 140, and very feeble; she looks much prostrated; the ankle more enlarged; and the swelling of shoulder extending down the arm.

Sulph. Quininæ, gr. i. ter o. d.

Vesperé. Is exceedingly weak; pulse scarcely perceptible; the

left knee is a little swelled, and she complains of pain in it, and also in the wrist of same side.

Wine and arrow-root.
Anodyne draught h. s.

Died the following morning at one o'clock.

Autopsy.—*Peritonæum* healthy, and no fluid in its cavity. *Uterus* of the natural size; its substance rather vascular. Purulent matter in the right broad ligament, and a considerable quantity also in the posterior wall of uterus. Serum was found in the swollen part of the arm, near the elbow.

This must be regarded as a case of pure uterine phlebitis, and yet it is remarkable how free she was from rigor throughout the whole course of the disease.

No. 149.—M. F. Early in the first stage she was bled on account of rigidity of the os uteri. The membranes remained unbroken up to a few hours before delivery; nevertheless, a good deal of distortion was present in the child's face (which presented) from pressure. Placenta came off favourably.

Second day. This morning the pulse was 120; considerable tenderness over the uterus and abdomen; headach. Bowels not moved since delivery; lochia abundant.

Pills of Mercury and opium every four hours.
Mercurial inunction.
Bran poultice to the belly.

In the evening, not being improved, she was put sitting up and bled to faintness, and got at bed-time,

Calomelanos gr. iii. et
Pulv. Doveri gr. x.
Haust. Ol. Ricini. et Tereb. āā ʒiv. cras mané.

Third day. Rested tolerably well; pulse 144, and weak; bowels moved but once, scantily; tenderness undiminished.

To have one of the mercurial pills, with half a grain of Digitalis, every second hour.

7, P. M. Pulse 138, and weak; bowels moved three times;

headache; looks heavy and drowsy; respiration short and quick; coughing, or taking a deep inspiration, is productive of much pain.

To have arrow-root and wine.

Submur. Hydrarg. gr. v.

Opii gr. ii. in pil ii. h. s.

Fourth day, 8, A. M. She rested well till five o'clock; since then she has had severe uterine pain; pulse 136, and very feeble; respiration the same; tenderness very acute; belly tympanitic; lochia still red, but scanty; headach.

Empl. Vesicat. hypogast.

Spirit. Terebinth. ℥ iii.

Sacch. albi ℥ ii.

Aq. fontis ℥ i. M.

Ft. haust. s. s.

At 10, A. M., the tympanitis was less, and she had two thin motions.

Omit pil.

Ol. Tereb. ℥ i. 3 tiis. horis.

10, P. M. Has been purged seven times. At three o'clock, draughts containing black drop and prussic acid were substituted for the turpentine. Pulse 140; tongue furred; belly very tender; breath offensive; expression of face bad.

Aceti Opii ℥ xxv. s. s.

Fifth day. Rested very badly; no purging; aspect sunken; complains much of stitches running through the side and belly; pulse 150, very small and weak; constant thirst; and preference for cold drinks.

At 3, P. M., was delirious and pulseless, still anxious for cold drinks. She expired at half-past nine in the evening.

Autopsy, thirteen hours after death.—Serous effusion into the peritonæal cavity, of a yellowish colour and containing numerous flakes of lymph; the *uterus* very large, and extending up to near the umbilicus; serous membrane of this organ and of abdominal

walls highly vascular. No appearance of pus in any part of the uterus; its internal surface presented a sloughy aspect.

This poor woman, before admission into the Hospital, had been suffering much from extreme destitution and misery of every kind. When admitted, her bowels were in a very neglected state, and she herself was very despondent about the result of her illness. The early occurrence of bad symptoms, and the fact of the lochia having continued almost unaffected throughout the course of the disease, were remarkable features in this case.

No. 154.—C. C. Delivered on the 7th September, 1843. She had a good deal of spurious pains before the actual setting in of labour, and the second stage was so much protracted that it was feared instruments would be required. On the day after delivery she had a rigor, followed by tenderness of the uterus, and pulse at 120. The usual treatment was adopted in order to get her under the influence of mercury, which seemed to be partially effected on the fifth or sixth day. During this period she had several rigors.

On the tenth day diarrhœa set in, with tympanitic distension of the abdomen. The uterine tenderness was at this time nearly gone, but the pulse was 136.

Guttæ Nigræ ℥v.

Acid. Prussic. ℥ii. ter o.d.

She continued much in the same way till the fourteenth day, when there took place a considerable discharge of purulent matter from the vagina, and a small abscess burst in the right labium. This was not followed by any amendment, and she began to have frequent shivering fits. In this way she continued until the time of her death, which took place on the twentieth day. During the few days prior to this event, she suffered from pain in the symphysis pubis.

Autopsy.—Upon cutting into the *uterus*, some purulent points were observed. In the joint of the pubis, and the vicinity, there was a deposit of pus, with nearly complete erosion of the cartilages. A communication existed between this part and the canal of the vagina, through its anterior wall. Uterus small but rather soft; other viscera healthy.

It sometimes happens in cases of a similar nature to this, that a discharge of matter from the vagina is followed by a subsidence of the bad symptoms, and ultimate recovery. This induced us to hope that the gush of matter that took place on the fourteenth day might be the precursor of amendment; but the continuance of the bad symptoms soon dispelled all such expectations. The vagina was carefully examined during life, in order to ascertain from what part the pus escaped, but without success; and it was therefore supposed to have come from the uterus, as no unnatural aperture could be felt. That none could be discovered, did not appear strange at the *post mortem* examination, as the communication between the pubic joint and the vagina was so concealed as to be with some difficulty detected even then.

No. 176.—M. C. was delivered November 24, 1843, at 7 P.M. The placenta came off favourably.

Second day. So much pain and tenderness in hypogastric region that it was deemed necessary to bleed her, and commence the mercurial treatment.

Vesperé. Pulse very much accelerated; bowels once moved.

Hydrarg. Submur. gr. iii.

Haust. Anodyn.

Third day. Pulse 140; purged three times in the night; tongue brown and dry.

The quantity of opium in the mercurial pills to be increased.

On the evening of the fourth day she complained of general depression, and of pain in the left shoulder; diarrhœa still troublesome.

Empl. Vesicat. Abdom.

Enema Anodyn.

Fifth day. Passed a bad night; pulse 132, and feeble; tongue dry and brown; no mercurial action on the mouth; diarrhœa and vomiting; pain in the left shoulder and arm, but no discoloration of the integument.

To have one grain of opium.

A sinapism to epigastrium.

In the day she got a warm bath, but did not experience relief from it. The diarrhœa ceased, but the vomiting continued the same as before, and the fluid ejected was of a greenish colour. She expired the next evening at 6 o'clock.

Autopsy.—In the *uterus*, corresponding to the insertion of the broad ligaments, puriform matter was found; it oozed out from divided vessels, upon a section being made with the scalpel. The internal surface of the organ presented a gangrenous appearance, particularly at the cervix. To the fundus was adhering a small piece of dark substance, like a portion of placenta. *Ovaries* softened and disorganized. Serous effusion into peritonæal cavity. The shoulder presented no abnormal appearance.

In this, as in No. 142, there was no observable rigor throughout the progress of the disease, but the pulse was extremely rapid from the commencement.

No. 211.—M. M. In this case the membranes ruptured, and the waters were discharged, upon the accession of the first pains of labour; and, apparently in consequence of this, a rigid condition of the os uteri followed. After a continuance of the pains for thirty-six hours, during which time she had been bled and got tartar emetic solution, the os was found to be little larger than a penny, and the head was pressing strongly into it. Some extract of belladonna was now carefully applied to the os internum, but did not produce any perceptible effect. Subsequently she was put into a warm bath, and in two hours after this the child was born dead, though a very short time previous to her entering the bath the foetal heart's sounds had been plainly heard.

In speaking of the use of the warm bath, we have had occasion to allude to this case, and to notice the important fact of the child's being dead born, though its vitality shortly before the patient got the bath had been satisfactorily ascertained.

No. 243.—The only interesting feature about this woman's case is, that she was forty-nine hours in the first stage of labour, owing to rigidity of the os uteri (induced apparently by early rupture of the membranes). To remove this unfavourable condition it was necessary to use the lancet, and give tartar emetic solution; by which means, together with a rigid observance of the anti-

phlogistic treatment, matters were brought to a happy termination, and she gave birth to a living girl, after an illness of fifty-eight hours. Her recovery was rapid and perfect.

No. 258.—A. D., aged 22, a healthy-looking woman, of strong and robust habit; admitted December 7, 1844. Had occasional pains of a spurious nature on the 7th and 8th, accompanied with great sickness of stomach; on the evening of the 9th she was bled, as the pains were more severe, and not producing any effect on the os uteri, which was very thick, and would just admit the tip of the finger. The membranes could be felt unbroken, and the head was presenting; the foetal heart was distinctly audible. On the following evening (10th) the liquor amnii came away, and as she was very much fatigued from the continuance of the pains, which were producing almost no effect upon the os, an opiate enema was given to her. The pulse at this time was 84, and the bowels had been well acted upon by medicine. It was necessary to remove the urine by introducing the catheter.

11th. Had some sleep. Pains have returned, and occupy chiefly the back and lower belly. Retention of urine; vomiting; pulse 96; bowels not moved to-day; os uteri the same size.

Anodyne Liniment to back.

Three grains of Calomel to-night, and Oil in the morning.

12th. Had no sleep, and was tormented with pains all night in the loins and hips; vomits with every pain; countenance expressive of despondency and great suffering; pulse 60, and feeble; pressure on uterus painful; bowels not moved; os tincæ in same state, and very low in the pelvis; foetal heart audible, but weaker than hitherto. She had Rochelle salts in effervescence during the day. In the evening the pulse was 88, and there was little or no change in the state of the os tincæ. Bowels were not disturbed during the day.

Opii gr. i. et

Calomel. gr. iii.

13th. Slept until two o'clock this morning, when the pains came on. At present the pulse is 100; tongue white and furred; there

is thirst and retention of urine; no vomiting; bowels not acted on; uterus very tender on pressure; os uteri feels thinner and beginning to dilate; foetal heart audible. As might be expected, she is very weak and exhausted from the continued pain and loss of rest.

To have two grains of Calomel and three of Blue Pill immediately, and Black Bottle every second hour until the bowels act.

She would have had a warm bath this morning, but that there had been some hæmorrhage from the uterus after her admission into the Hospital.

In the evening the pulse was 104; pains pretty constant; retention of urine, requiring the catheter to be passed. The next morning (14th) she was delivered of a dead female child at 6 o'clock. After delivery the belly was very full, and the uterus more tender than usual at this period. She slept during the entire day; but upon visiting her in the evening, great was our surprise to find her in a dying state, with a pulse 140 and thready; countenance sunk; respirations 40. She died in six hours from this time.

Autopsy, fifteen hours after death.—Extensive peritonitis; a great quantity of lymph glueing intestines together; also some brown serous effusion. *Uterus* not well contracted; the lips of the os were unusually thick and large, and presented a very dark colour, so as to closely resemble the maternal surface of the placenta. In the posterior wall of the cervix uteri, and above the os, there existed a well-defined, circular opening, about the size of a sixpence. This aperture in situation corresponded with the sacral promontory, and had a smooth, clean edge. The adjacent muscular structure of the part was somewhat thinned, and some slight degree of inflammation was present. The oblique diameter of the pelvis was found, on accurate measurement, to be five inches and one-eighth in length; and the conjugate was three inches and three-fourths.

We should not omit to mention that the interior of the uterus was dark and gangrenous.

This may justly be regarded as a very singular and in some respects obscure case. It forcibly shews the necessity that exists

for closely watching any patient who complains of long-continued or violent spurious pains; as under such circumstances the development of peritonitis or uterine inflammation is much to be dreaded. There can be no doubt but that in this patient the peritonæal inflammation had been going on for some time before delivery, though in a rather latent manner.

Respecting the perforation of the uterus, there is considerable difficulty in explaining its mode of production. The way in which we would account for it is this: that the cervix uteri, having been carried low into the pelvis before the foetal head, was pressed for a length of time against the projecting part of the sacrum, in consequence of which an inflammatory process was set up, ending in the erosion or absorption of the part subjected to pressure, and at the same time giving rise to general peritonitis. Objections may be urged against this explanation; but still we think it is the most rational way of accounting for the anomalous appearances the parts presented.

The second group of cases that come under our consideration are those in which delivery was effected by means of the Forceps. They were *eighteen* in number.

No. 3.—It was this woman's fifth child, and her age was 35. She was in broken-down health on admission, and had been suffering from extreme poverty and every kind of wretchedness. The second stage was prolonged from inaction of the uterus, and she got a dose of the ergot of rye, which, acting on the foetal heart, rendered delivery by the forceps necessary. This was forthwith accomplished, but unfortunately without being successful in saving the child, which could not by any means be resuscitated, though the heart's pulsations had not ceased at the time of its birth. Symptoms of low typhoid puerperal fever shewed themselves soon after delivery, and on the third day she sank from extensive peritonitis.

No. 6.—This was a stout young woman, aged 24, in labour of her first child. After the head had entered the pelvis the pains became feeble and inert, so that, without any deficiency of space, it remained stationary for several hours, though she had been up and walking about most of this time, and had got two or three stimulating enemata. As the case was a favourable one, and the

child alive (as revealed by the stethoscope), the forceps were applied, and a living boy extracted without any difficulty. This woman got scarlatina on the third day, but ultimately did well.

No. 28. T. R., aged 25, first labour, admitted June 18, 1842. When she came in the os uteri was beginning to dilate, and the waters had drained away, in consequence of which the first stage was retarded. After the os had fully opened, and the head had descended into the pelvis, the pains decreased in strength, and no advance whatever was made during several hours. As she now began to vomit, and to shew signs of exhaustion, it was deemed prudent to deliver her with the forceps, the ear of the child being easily reached, and the foetal heart very distinct. Ergot was not given, as there were some head symptoms present contra-indicating its employment. The child, a girl, was extracted alive, after a labour of forty-three hours' length. This woman recovered perfectly, though her convalescence was rather tedious.

No. 40.—M. G., aged 26, first labour. The pains commenced on the 27th August, 1842, and the membranes ruptured soon after, whereupon she set out from home and walked to the Hospital, a distance of eight English miles. Upon admission the os uteri was found to be thin and unyielding, and but little dilated. She was put on the use of tartar emetic solution, which effected a favourable change in the condition of the part, and on the next morning the os was fully dilated, and the head beginning to enter the pelvis. By eleven o'clock the head was sufficiently low to admit of the ear being felt; but in this position it remained all day, without making the least advance, and at seven o'clock in the evening it was thought advisable to bleed her, to remove some symptoms of general excitement and inflammatory fever. At nine o'clock, matters remaining still unchanged, ergot was given. This acted on the foetal heart but not on the uterus, and as the stethoscopic indications denoted danger to the child, the forceps were applied, and a male foetus was, with some difficulty, extracted. The heart was still pulsating, but animation could not be restored. She recovered well.

No. 80.—J. D., aged 31, first labour. The pains began on the 9th January, 1843, and the dilating stage was concluded favourably, though slowly. Delay took place in the second stage, from

defective uterine action, and she got ergot of rye. This failing to effect delivery, the forceps were employed; but, though they were applied on the first indication of danger to the fœtus, its life was lost. This woman was forty-five hours in labour, and recovered without any untoward symptom.

No. 82.—J. B., aged 37, fifth pregnancy. She was delivered on the 15th January, 1843, with the forceps, as the head had remained a long time without making any advance, from want of good expelling power in the uterus, and partly, also, from some approximation of the rami of the pubes. Both mother and child did well.

No. 101.—M. D., aged 20, first labour, admitted the 24th March, 1843. In the first stage this woman was bled and got antimonial solution, with the twofold object of promoting the dilatation of the os uteri and averting convulsions, of which there were some premonitory symptoms. In the second stage considerable delay arose from inefficient uterine action, and it was necessary to accomplish delivery with the forceps. The child, a male, was extracted alive. This poor woman died on the seventh day, not from the effects of any injury sustained during the operation, but of uterine phlebitis.

No. 102.—M. M., aged 21, first labour, came into the Hospital March 22, 1843, suffering from headach, giddiness, and other precursory symptoms of convulsions, for which she was bled, with great relief. Uterine action, in the second stage, was so feeble, and the labour, consequently, so prolonged, that it was necessary to resort to the use of the forceps to perfect the delivery. The child was still-born, and past resuscitation, though the fœtal pulsations had been heard shortly before applying the instrument. She recovered well.

No. 113.—A. M., aged 22, a full, plethoric young woman, admitted May 19, 1843, in labour of her first child. During the second stage, and after she had been nearly twenty-nine hours ill, she got symptoms indicating the near approach of an attack of puerperal convulsions: so marked and characteristic were these, that it was deemed expedient to terminate the labour by using the forceps. The condition of the parts was most favourable for the application of the instrument, and delivery was

speedily completed; nevertheless the child, a boy, was dead born. Her convalescence proceeded without any interruption.

No. 118.—B. W., aged 32, fourth labour, admitted 19th May, 1842. When in labour for some hours, violent uterine action, of an irregular kind, came on, and in order to moderate it bleeding was practised, as rupture of the organ was apprehended from a continuance of such powerful, though unproductive, pains. The foetal heart was audible. Some time after this she was seized with symptoms of great prostration, and delivery was immediately effected by the aid of the forceps, but the child was not saved. She went on very well until the fourth day, when the abdomen became tender and swollen, the lochia brown and scanty, and the pulse rapid. A cough which she had on admission now increased in severity, and was accompanied by urgent dyspnoea, and each effort of coughing greatly augmented the abdominal pain and distress. All treatment proved unavailing, and she died in three days.

Autopsy.—Extensive peritonitis, with copious effusion of lymph and yellowish serum; *uterus* large, its interior very dark; pus in the sinuses; general bronchitis throughout both *lungs*; the right somewhat emphysematous.

No. 127.—B. B., aged 37, a short, muscular woman, first labour, admitted June 22, 1843. On coming into the Hospital it was remarked that she had some cough. She was bled during the first stage, and got small doses of tartar emetic to relieve the chest and promote dilatation. The second stage was also tedious, from defective uterine action. After the head had been on the perineum for some time, she got a rigor, and this was followed by great depression, and a manifest increase of cough and dyspnoea. Delivery was now effected with the forceps; and the child born alive. She had been forty-eight hours in labour. The pulmonary symptoms increased in severity after delivery, and, in spite of everything that could be done, she expired on the third day.

The *lungs* were found on examination to be very much congested, and there existed intense bronchitis of each. Large quantities of muco-purulent fluid escaped from the divided bronchia. In the peritonæal cavity there was some serous effusion.

No. 136.—This was a case of pure arrest. She got ergot of

rye, but this not acting sufficiently on the uterus, and the foetal heart becoming affected, she was delivered with the forceps. Both mother and child did well.

No. 143.—M. D., aged 40. This case was precisely the same as the preceding, except that it was the woman's second labour. She was able to go home on her eighth day.

No. 147.—M. G., aged 21, first pregnancy, thirty hours ill. The first stage was rapidly concluded, but in the second great delay occurred from inertia of the uterus, and ultimately she had to be delivered with the forceps. The child, a boy, was born alive, and vigorous.

This patient had a very good recovery. The ergot was not given her, as there was a good deal of congestion and fulness about the head, and, moreover, every condition for the safe use of the forceps was present.

No. 150.—M. M., aged 28, first labour. The pains began on the 30th August, 1843, and continued regular until the following evening, when the membranes ruptured, the os uteri being fully opened. During the night the pains were frequent and violent, but in the morning were comparatively weak, and not causing any advance of the head, which had entered the pelvis. At noon she got a dose of ergot, which had no effect in augmenting the pains. A second dose was given, after an interval of twenty-five minutes, but with no better effect. As the foetal heart was now becoming feeble, and had fallen in frequency, delivery was accomplished by the forceps, but the child, a male, could not be restored, although the heart continued to pulsate for some time after birth. The placenta came away favourably. This woman recovered slowly but perfectly.

No. 169.—M. C., aged 28, first labour. This woman came into the Hospital October 26, 1843, and at this time was evidently in very impaired health. The second stage was protracted, from deficiency in the expelling powers, and she got three doses of ergot, at intervals of twenty-five minutes, without any beneficial effect; at length it became necessary to deliver her with the forceps, as the usual indications of danger to the foetus, from the influence of this medicine, were observed. The child, a male, gasped two or three times, but gave no further signs of life. Her

labour was of thirty-seven hours' duration. No difficulty was experienced in applying the forceps, or in the subsequent steps of the operation. She went on most favourably until the third day, when, at two o'clock, P.M., she had a rigor, followed by acceleration of pulse, and pain in the right iliac region. The lochial discharge remained unaffected.

At 9 o'clock, P.M., the pulse was 140, and the abdominal distress considerable. Sixteen ounces of blood were taken from the arm in a full stream, which caused fainting, and greatly relieved the uterine pain.

To have two grains of calomel and an anodyne draught.

Mercurial frictions; and, in the morning,

A dose of castor oil and turpentine.

Fourth day. Pulse 140; great pain and tenderness in the hypogastric region; lochia red but scanty; thirst; tongue furred; bowels unmoved by the medicine. In the course of the day the bowels acted once, and twenty leeches were applied to the lower part of the abdomen. The catheter had to be passed on account of retention of urine. From this date obstinate diarrhœa, with tympanitis, set in, which nothing could stop, and which only received a temporary check from the strongest opiates. The countenance gradually assumed a dirty, sallow hue; the pain and tenderness of the abdomen continued; the pulse generally beat at the rate of 132, and never lower than 128, in the minute; and her sleep was disturbed and broken. She lingered on to the 9th November, when death terminated her sufferings.

Autopsy.—On cutting into the *abdomen*, appearances of intense peritonitis with effusion were discovered. The right *ovary* was much softened and disorganized. In the right superior corner of the *uterus* there existed a projecting part, and upon cutting into this it was found to contain pus to the amount of some drachms. The interior of the uterus was dark and sloughy, particularly towards the cervix, where an incision was followed by the escape of purulent matter from the divided canals. The posterior wall of the vagina was also in a sloughy condition.

Nos. 202 and 212.—These two cases are so much alike that they may be described together. Each was a case of arrest, and after giving the natural powers, aided by stimulating enemata and

change of position, &c., a fair trial, without success, ergot of rye was administered, its effects on the foetal heart being closely watched. In neither instances did it produce any decided increase of uterine action, but it undoubtedly affected the foetal cardiac pulsations, and delivery had to be completed with the forceps. Both children were extracted alive, and the mothers recovered satisfactorily.

This concludes the history of all those cases where delivery was affected with the forceps, on account of delay in the second stage of labour. The reader may observe that in *nine* instances,—half of the entire number,—ergot of rye had been previously administered; and with each prompt instrumental interference became necessary, in consequence of this medicine acting injuriously upon the foetus, this effect being revealed by the change in the character and frequency of the foetal heart's sounds. These changes we have before adverted to, when speaking of ergot of rye. The average time at which the forceps were resorted to after the first dose of ergot, was between an hour and a quarter, and an hour and a half. Nevertheless, in five instances the child was still born. The above cases, and others which yet remain to be related, abundantly illustrate the value of auscultation in pointing out the time for active interference after the exhibition of ergot of rye in cases of arrest.

The next class of cases whose histories we proceed to relate, are those in which the Vectis or Lever (or one blade of the forceps used as such) was used to effect delivery. They number *sixteen*. These, with the forceps cases, amount to *thirty-four*, out of which number *five* women died.

Nos. 13, 16, 33, and 96, were all cases of arrest, where instrumental assistance was required on account of prolonged delay in the second stage, with the appearance of bad symptoms.

No. 56.—C. C., aged 38, seventh labour. The first stage went on favourably, and was terminated within a short period, but the second was very much protracted from inert uterine action. She got two doses of ergot, by which the pains were increased; nevertheless, the head did not advance, and as the foetal heart was found to be getting very feeble, the pubic blade of the forceps was introduced and used as a vectis, and the delivery was thereby effected.

The child, a boy, had some signs of life when born, but could not be re-animated. This patient recovered so well, that she was able to leave the Hospital on the ninth day.

No. 81.—C. D., aged 26, first labour. The child in this case presented with the face, and remained for a long time stationary after the head had entered the pelvis. Ergot of rye was given, but failing to effect the desired object, delivery was accomplished with one blade of the forceps, as in the case last described. The child was born alive. Her recovery was slow.

No. 91.—C. L., aged 33, first labour. Came into Hospital February 20, 1843. The first stage was unusually long, owing to great rigidity of the os uteri, for which she was bled, got tartar emetic, and a warm bath. At eleven o'clock on the evening of the 22nd, as the head had been for some hours resting on the perinæum, uterine action being feeble, and the fœtal heart audible, ergot of rye was given, which increased the frequency of the pains, without causing any progress in the labour. In the course of two hours from the first dose of the medicine, delivery was effected by the vectis. No difficulty was encountered in the operation, as there was ample space.

The child (a female) gasped a few times, but could not be restored to animation.

Before delivery the discharge from the vagina had become most offensive, and yellowish. On the second day it was of the usual red colour.

The only untoward circumstance which took place during her recovery was diarrhœa.

No. 110.—The particulars of this case so closely resemble those of No. 56, that we need not occupy space by relating them. It was the woman's first labour, however, and the child was born alive.

No. 141.—C. C., fourth labour. The head having remained stationary for twelve hours, from want of good expelling pains, she got ergot of rye. In three quarters of an hour after its exhibition, the ergot was found to be acting on the fœtal heart, and as there was no immediate prospect of the child's being born, the vectis was applied, and it was extracted alive. The funis was three times round the neck. Her recovery was perfect.

Nos. 165, 184, and 122.—These were primiparous women, and their cases do not differ in any important particular from that of No. 110.*

No. 185.—This woman was twenty-eight hours in labour, and as the head made no advance for the last seven, though there was ample space, she got three doses of ergot, the first of which was vomited. The pains were not much increased in strength by these, and in an hour and a half from the first dose it was ascertained by the stethoscope that the child was getting weak, so it was delivered with the vectis, and just in time to save its life. Her recovery was slow, though perfect.

No. 250.—H. W., first labour, aged 30. Admitted December 2, 1844. The head was very slow in descending into the pelvis, and, having got to the perinæum, remained there for several hours without advancing, owing to the feebleness of the pains, and not from any want of room. At half-past 9, P. M., of the 3rd, she got fifteen grains of powdered ergot in the strained infusion of thirty. This did not produce any decided effect, and in twenty minutes the dose was repeated. The second dose was followed by good pains, and the head began to protrude slightly; but in twenty-five minutes more (forty-five from the first dose), the fœtal heart was found to have fallen in frequency, and to have become intermittent. For this reason the vectis (i. e., one blade of the forceps) was introduced, and the child extracted without the least difficulty. The cord was still pulsating, but all our endeavours at resuscitation were fruitless. This patient's recovery was somewhat retarded in consequence of a slight laceration of the perinæum.

No. 254.—M. K., aged 34, came into Hospital for her first confinement December 26, 1844. The os uteri was fully dilated the same evening, and exactly at noon on the following day she got the ordinary dose of ergot, as the head had made no perceptible advance for seven hours, and retention of urine was present. There was plenty of space, and the ear could be readily felt.

* In one of these cases there was a knot on the funis, which was unusually long, and the child was alive. This was the only example we have ever seen of such an anomaly.

The foetal heart at this time was 120 and weak. As this dose produced little effect, she got a second in twenty-five minutes, but this also failed to stimulate the uterus. After waiting fifteen minutes, the foetal heart was carefully examined, and its frequency was found reduced from 96 to 120. One blade of the forceps, passed up without delay, and used as a vectis, extracted the child. It made some efforts at respiration, but could not be further restored. It was pale and flaccid. This child was born within forty-five minutes after the first dose of ergot.

These cases require no comment, as the practical lessons which they teach are sufficiently plain and intelligible. We would just direct the reader's particular attention to two facts, leaving him to draw his own conclusions from them: firstly, that in none of the above cases, where the child was still-born after ergot, had the foetal heart ceased to pulsate at the time of delivery, or even after birth; and secondly, that, in the majority of them, the uterine action, induced by the ergot, had not been by any means energetic or continuous; on the contrary, in some instances, the pains were not at all increased either in strength or frequency.

No. 257. *Emphysema during Labour*.—M. D., aged 20, first labour; admitted June 20, 1844. This was a small, but well-made, healthy woman. Matters progressed slowly, and the face, which was the presenting part, was not on the perinæum for nearly twenty hours. At this time the pains were strong, but did not cause any advance of the head. It was now remarked that the left side of the patient's neck and face had become quite emphysematous. The foetal heart was audible. In two hours after it was thought prudent to accomplish delivery with the vectis (in the same manner as in the preceding cases) as the emphysema was increasing, and no progress had been made in the labour. The child (a girl) was born dead. The following day she was bled to 12 oz., and got small doses of blue pill and ipecacuanha powder. She eventually recovered well, though for some days the pulse remained at 100. The emphysema had entirely disappeared on the fifth day.

This woman was delivered in the Hospital of her second child, May 3, 1846. Her labour was short and easy, and she was then quite free from any pulmonary affection.

The fourth and last group of difficult cases that comes under

examination, comprises those in which the Perforator and Crotchet had to be used to terminate labour.

No. 4. *Gangrene of the Uterus*.—S. M., aged 22, first labour. After thirty-six hours' illness, she was delivered by the crotchet, as the head was high up in the pelvis, and had remained stationary for several hours. Bad symptoms were beginning to arise, and the foetal heart had for some time ceased to be audible.

On the second day there was uterine tenderness, quick pulse, and fulness of the abdomen. She was bled and put on the use of mercury, &c., but without avail. She died on the sixth day. On examination *post mortem* the interior of the *uterus* was found in a sloughy condition, and pus existed in the substance of the organ.

No. 27.—This was a first labour, and the second stage was protracted from want of sufficiently energetic uterine action; and although it could not be said that there was actual impaction of the head, yet the state of the soft parts and position of the head were such as to have altogether precluded the safe use of the forceps. The foetal heart's changes were carefully noted, and two hours after their complete cessation craniotomy was had recourse to, as bad symptoms were beginning to arise. There was a good deal of hæmorrhage after the placenta, in consequence of which her recovery was retarded.

As the child's death in this case was a matter of positive certainty, the woman was not left unassisted so long as she would otherwise have been; for the symptoms, though unfavourable, were not so urgent as to have justified instrumental interference, in the absence of such unequivocal information regarding the state of the foetus. Under the existing circumstances there was nothing to be gained by delay, and it would have greatly augmented the danger to the woman's own life.

It is in cases of this kind that the judicious and careful employment of auscultation is so eminently useful, and yields such truly valuable results.

Amongst primiparæ, cases similar to the preceding are by no means uncommon. To save unnecessary repetition, therefore, it may be stated that the following cases in the general table were, with little variation, of this description, viz.: Nos. 63 (she

had been twenty-four hours in labour when brought to the Hospital; the bowels were very much constipated, and the bladder enormously distended); 103, 104 (was brought to the Hospital in a state of great exhaustion from the length of her labour, and the want of proper care); 108, 109 (in this instance the head continued high up in the pelvis, and the anterior lip of the os remained unobliterated, and of considerable length, until delivery); 111, 116 (had slight hæmorrhage after the expulsion of the placenta); 120 (was brought many miles from the country, the membranes having broken before her departure); 153, 200, 205, 213, 219, and 221.

No. 135.—E. M., aged 33, first labour. The pains commenced on the 21st July, 1843. The membranes ruptured on the evening of the 22nd, and, in consequence of some tenderness of the abdomen, and the spurious character of the pains, blood was taken from the arm. At this time the head was not pressing on the os uteri, which was very small.

23rd. Pains frequent and confined to the back; they do not cause the head to descend; os in the same state. At 3, P.M., she had a warm bath, and afterwards her back was rubbed with an anodyne liniment, as the pains in this part were almost without intermission. Some fœtid discharge flowed from the vagina. Fœtal heart very loud.

24th, 9, A.M. Had some sleep; pains at present very strong; pulse 108; face very much flushed; tongue foul and dry; the head has been for some hours engaged in the pelvis. Fœtal heart very rapid and weak: at the expiration of an hour its sounds had become wholly inaudible, and there was a very foul discharge from the vagina. In about two hours after this the crotchet was used.

For a few days after delivery there was some uterine tenderness, for which she was leeches and got mercury. On the 4th August, a little slough came away from the posterior wall of the vagina, leaving a very small opening into the rectum. This subsequently contracted so much as to be productive of no inconvenience.

No. 137.—M. H., aged 28, a large, strong woman, of rigid fibre, was admitted in labour of her first child, July 22, 1843. At 3 o'clock on the following morning (23rd) the membranes

ruptured, and throughout the day the pains were strong and frequent, but the os uteri was little dilated, and the vagina rigid and unyielding. In the evening a favourable change took place in the state of the soft parts, and at 10 o'clock the os was found nearly fully dilated, but the head had not entered the pelvis.

24th. At 10, A. M., the head was still at the brim of the pelvis, although the pains had been strong and frequent all night; it seemed as if there was some want of space. Fœtal heart very audible, but feeble. During the day she complained much of a "bearing down" sensation; and there was retention of urine. At 2 o'clock the pulse was 95, and some uterine tenderness was complained of.

8, P. M. Considerable tenderness of the abdomen; tongue dry and brown; thirst; retention of urine; pulse 120; fœtal heart has been wholly inaudible for upwards of three hours; the head has descended somewhat into the pelvis, and there is a large scalp tumour upon it. Perforation was now performed. Some hæmorrhage preceded and followed the expulsion of the placenta. Her labour was about forty-six hours in length. After delivery an opiate was given, and three grains of calomel.

Second day. Rested badly, with occasional low muttering delirium; her manner is quick and restless; countenance sunken; pulse 142, small and feeble; respirations frequent; tongue dry and brown; belly tympanitic and painful; bowels not moved, though she had a dose of oil and turpentine this morning; urine had to be drawn off with the catheter. The right lumbar region is the seat of most pain.

Bled to fourteen ounces.

Turpentine stupe to belly.

Mercurial frictions.

Calomel, Blue Pill, and Opium, in small doses, every second hour.

Vesperé.—Says she feels better and has less pain since the bleeding, which she bore well. Pulse 150.

Third day. During the night the bowels acted three times. At 6 o'clock this morning she began to sink, and at 8 o'clock expired.

Autopsy.—*Abdomen* large and tympanitic; nearly a pint of

sero-purulent fluid in its cavity. Left *ovary* enveloped in lymph. The peritonæal covering of *uterus* inflamed; the organ itself of normal size; its muscular structure healthy, but the interior gangrenous. Puriform matter in the sinuses, at the insertion of the broad ligament.

No. 187.—E. M., aged 30. Delivered February 9, 1844. Upon admission this woman was suffering under a severe attack of bronchitis, which greatly embarrassed her during the throes of parturition. After forty-eight hours' continuance of pains, the employment of bleeding, tartar emetic, and the warm bath, it was found that the first stage of labour was not yet completed, a portion of the anterior segment of the os uteri still firmly embracing the fœtal head. The symptoms had by this time assumed so unfavourable an aspect as to render further delay highly dangerous. She recently had had a rigor; the pulse was very rapid; the uterus everywhere tender under pressure; the pains had ceased for some hours; and she was also suffering from dyspnœa and cough. From the high position of the fœtal head, and state of the os uteri and other soft parts, delivery by the perforator and crotchet was the only resource, although there was some doubt as to whether the fœtal heart's pulsations had entirely ceased or not. The case, however, was urgent, and would admit of no delay. Her recovery was slow, and there was some partial sloughing of the vagina. She was able to quit the Hospital in three weeks from the time of delivery.

No. 170.—E. B., aged 35, first labour; admitted November 4, 1843. She had spurious pains for several hours before true labour set in. On the evening of the 6th the os was found little dilated and very unyielding; the pains evidently not of a genuine character; some abdominal tenderness.

Bled, and got four grains of Calomel, with an anodyne draught.

During the day and night of the 7th the dilatation of the os uteri slowly progressed; and at 10 o'clock on the morning of the 8th it was fully dilated, and the head beginning to be engaged in the pelvis, but the pains produced little effect. Fœtal heart's sounds strong and distinct. No unfavourable symptom present.

9th, 8, A. M. The head remains high up in the pelvis, and her symptoms are these: pulse 120; brown, fetid discharge from the vagina, which is hot and tender;* pains feeble, with long intervals between them; tongue dry and furred; retention of urine, requiring catheter; foetal heart barely audible, and irregular: it very soon became imperceptible, and in about two hours after this, perforation was had recourse to.

Vesperé. Pulse 132; some tenderness of belly.

To have three grains of Calomel and eight of Dover's Powder.
Mercurial inunction.

A dose of Oil and Turpentine in the morning.

Second day. Pulse 130; belly full, and tender over uterus.

Twenty-four Leeches to abdomen.

A pill every third hour, containing half a grain of Calomel, two grains of Blue Pill, one grain of Ipecacuanha Powder, and one-sixth of a grain of Opium.

Diarrhœa came on the next morning, and she died on her sixth day.

Autopsy.—Straw-coloured effusion into peritonæal cavity. The interior of the *uterus* presented a sloughy appearance, and pus exuded in considerable quantity from the divided sinuses.

No. 204.—A. C., aged 26, first pregnancy; admitted April 5, 1844. During the entire of this and the day following she suffered much from spurious pains, but on the morning of the 7th some impression began to be made on the os uteri. For the next twenty-four hours the pains continued frequent, but on the morning of the 8th the os was found not to have attained the diameter of a penny; the membranes had ruptured; and the face was presenting; foetal heart very distinct. She was now bled to twenty ounces, to promote relaxation, and was put on the use of tartar emetic solution.

9th, 9, A. M. Os fully dilated, except a small portion of the anterior lip, which feels thick and œdematous; the foetal heart

* A fetid, olive-coloured discharge from the vagina during labour has generally been looked upon as an indication of the death of the fetus; but on many occasions we have seen the child born alive, where this symptom was present in a marked degree. We think it rather points out an incipient inflammatory condition of the uterus.

ceased to be audible three hours ago; pains strong, but producing no perceptible effect on the presentation; retention of urine; the face not yet on the perinæum; belly tender; pulse 110; vaginal discharge brownish and fetid. This group of symptoms were certainly unfavourable, though not of a pressing nature; nevertheless, possessing, as we did, satisfactory evidence of the child's death, it was thought to be a gratuitous exposure of the woman's safety, allowing her to remain longer unassisted. At 11 o'clock the head was perforated through the forehead, which, contrary to what is usually observed in these cases of facial presentation, lay next the pubis. Considerable difficulty was experienced in the extraction of the head. The separation of the placenta was attended with some hæmorrhage.

On the evening of the second day there was so much uterine tenderness, that it was deemed necessary to bleed and put her on the mercurial treatment; but the internal use of mercury had to be very soon stopped, on account of the supervention of obstinate diarrhœa, which could be restrained only by opium. The diarrhœa continued for upwards of a week, and during this period any suspension of the opium was sure to be followed by an increase of the purging. The symptoms of uterine inflammation subsided as soon as the system was slightly affected by the mercury. A considerable slough formed on the posterior wall of the vagina, and tended very much to keep up a state of constant irritability of the rectum, with tenesmus.

This woman recovered perfectly.

The position which the face held in this case, with the chin posteriorly, is, we believe, much more unfavourable than the opposite or mento-pubic position; at all events, it is much less frequent.

No. 237.—A. K., aged 27, first labour; admitted October 1, 1844. Was in the Hospital during part of last week with spurious pains. On the evening of her admission we found the os uteri about the size of a sixpence, and thin, with the head pressing firmly on it; the vagina was dry, and the membranes ruptured. She had much irritability of stomach; pulse 76; tongue clean; bowels freed yesterday: she got purgative medicine, but vomited it. As the os was in a very undilatable condition, she was bled to fourteen ounces.

2nd. Slept a little; the pains came on more regularly this morning, but with them incessant vomiting; the os uteri is somewhat more dilated; bowels not yet moved. During the day she got three grains of calomel and effervescing draughts, but the stomach would scarcely retain anything. She also got a tepid water enema, but without effect on the bowels. In the evening the os was about the size of a penny, and the head, covered by the expanded cervix uteri, was pressing into the pelvis.

3rd. Got no repose; bowels not yet moved; tongue clean, but the vomiting is still constant; pulse 96; foetal heart very audible; os uteri larger, but the anterior half feels very unyielding, and is tightly applied to the head, upon which is a considerable scalp tumour; vagina dry and hot; she had some calomel and cathartic extract in pills during the day. At 4 o'clock she was put into a warm bath, and remained in it for twenty-five minutes; during this period she had several pains. She expressed great relief from the bath, as it lessened the febrile excitement, and made the skin moist and cool. At 11, P. M., the os was fully dilated, and the foetal heart very audible. She was allowed some beef-tea occasionally. In the evening the pains became very strong.

Mercurial inunction.

4th, 9, A. M. The head is near the perinaeum, and the ear can be reached with one finger, but not without causing excessive pain; vomiting has recurred; retention of urine; tongue clean; intestines much distended with flatus, particularly at the left side, in consequence of which the uterus is very much pushed towards the opposite side; some uterine tenderness; vagina dry and hot; the discharge olive-coloured and highly offensive; pulse 96; foetal heart still audible, but very feeble; pains weak, with long intervals, and not producing any effect whatever on the head. Dr. Labatt now saw her in consultation with Dr. Johnson, and, after a careful review of all the circumstances of her case, it was agreed that she should be delivered without delay, and that the only admissible mode was by perforation; this was accordingly performed. She was upwards of fifty-two hours in labour. Immediately after the child was extracted there was a copious discharge of faeces from the rectum.

To give the subsequent details of this woman's case would be tedious and unprofitable, as they presented no peculiar feature of interest. Suffice it to say, that for several days she remained in a most doubtful and precarious state, but that ultimately she made a perfect recovery. From the outset she was put on the use of mercury, but diarrhœa coming on the third day rendered its exhibition by the mouth no longer admissible. Nevertheless, ptyalism was induced by the sixth day. The diarrhœa continued for some time after this, and required the frequent administration of opium to be kept in check. The abdomen was two or three times stuped with turpentine, and poulticed with the heated bran, but not leeches.

She left the Hospital on the 5th November, restored to perfect health.

On the 2nd September, 1846, she was again admitted, in labour of her second child, and after six hours' illness was safely delivered of a live girl.

This is one of the very few cases of tedious labour we have seen, in which, under proper management, urgent symptoms requiring immediate delivery became developed before the death of the child had taken place.

No. 248.—C. C., aged 30, a seduced female of the lowest rank in life, with dark hair, and a swarthy complexion; admitted December 12, 1844. The membranes were ruptured on admission, and the os uteri about the size of a shilling; pains feeble; fœtal heart audible; retention of urine. On the morning of the 14th the head was on the perinæum, and had been there for some hours without making any advance; pulse 120; very foul discharge from vagina; retention of urine; pains few and weak; fœtal heart inaudible since the evening before; bones of fœtal head overlapping. Under these circumstances the proper treatment was plain and obvious. The child, a girl, considerably advanced towards putrefaction, was removed by the perforator and crotchet. At the expiration of two hours from the time of delivery the hand had to be introduced for the placenta, which was retained from inertia of the uterus. About an hour after the extraction of the placenta she had a rigor; and for this she got half a drachm of acetum opii.

Vesperé. Pulse 96; slept; no uneasiness in the belly, which is tympanitic.

Mercurial inunction.

Second day. Slept well; pulse 96; has a desire for food; tongue furred and very white; thirst; bowels not moved since delivery; belly very tympanitic, but not tender; lochia abundant, and watery.

Turpentine stupe to abdomen.

Mercurial frictions thrice daily.

Vesperé. Bowels once moved; seems in every respect better, except as to the pulse, which is now 110.

Third day. Makes no complaint, and says she feels pretty well; pulse 84; tongue moist, but has a yellow, furred streak down the centre; has some appetite; bowels twice moved; the motions consisted chiefly of hard fæces; belly soft and much reduced in size; thirst; perspires freely. Though there was no one symptom about her on this day calculated to excite much alarm, yet she had a peculiar look and expression of countenance that could scarcely fail of being recognised by a practised eye as the harbinger of danger.

Vesperé. Had a rigor at half past 2, P. M., for which she got a diaphoretic draught, and had a bran poultice applied to the abdomen; pulse varies from 60 to 80; no pain whatever.

Mercurial frictions.

Fourth day. Had some sleep; pulse 64; feels weak and languid; belly full, and tender over the uterus on deep pressure; four liquid motions from the bowels this morning; a large quantity of light-coloured, offensive lochia.

To have chicken broth.

Dover's Powder, six grains.

Vesperé. A very disagreeable smell about the bed, partly from her breath, and partly also exhaled from her body; pulse 106; belly full, but not tender; bowels four times affected; tenesmus; no sign of milk in the breasts; complains of pain and weakness

of the left shoulder, but this is not increased by moving the joint, nor is there any blush on the integument covering it; has some nausea.

Anodyne enema.

One drachm of Spirits of Turpentine now and in the morning.

To continue the mercurial frictions.

Fifth day. Rested tolerably well; pulse 112, and weak; has pain in the shoulder-joint on moving the arm, and she is wholly unable to raise it; bowels frequently moved during the night; the dejections consist chiefly of a dark brown liquid, most abominably fetid; lochia dark and offensive.

Bran poultice on belly.

Repeat the turpentine draught every three hours.

Vesperé. Pulse 106; says she feels better; the point of the left acromion is tender; no other change.

Opiate draught.

Sixth day. Pulse about 130; respiration much hurried; belly tympanitic; no change in the state of the shoulder; seems wholly unconscious of her danger.

Turpentine draught as before.

Vesperé. Pulse 104, and very weak; slept occasionally during the day, and took chicken broth; tongue much furred and brown in the centre; had three motions from bowels, passed involuntarily; thirst; some pain and swelling in the anterior part of right fore-arm, with redness of the integument.

Anodyne draught.

Mercurial frictions.

Seventh day. Pulse 126; ate her breakfast heartily; there is a painful red spot on the right elbow; tongue very dry.

To continue the terebinthinate draughts.

Vesperé. Seems more depressed than at any previous time, and is very drowsy, though perfectly collected when addressed;

pulse 140; the spot on the elbow is larger and more dusky in colour; a flat yellow vesicle has formed on it; the vagina is in a sloughy condition.

Opium, Digitalis, and Capsicum, each gr. i.

Mercurial frictions.

Eighth day. Looks very bad; her countenance has been gradually assuming that dirty appearance and peculiar expression which we have before noticed as so common in phlebitic cases; pulse 140, and extremely weak; no lochial discharge; thirst; ate her breakfast. In the evening she was drowsy and sleepy, and there was a disagreeable sickening odour about the bed; the pulse was 124, and the respiration much hurried. She died in the course of the night.

Autopsy.—Some lymph and brownish serum in the pelvis; uterus large; its interior, together with that of the entire vagina, is in a state of slough. Large quantities of pus in the uterine sinuses, the coats of which are much thickened. Purulent effusion in the left shoulder-joint; the head of the humerus discoloured; pus underneath the deltoid of same side, and under the skin of right elbow; serous effusion into the anterior part of the arm.

The above may be justly regarded as a highly interesting case of uterine phlebitis, and would admit of very extended observations. We shall content ourselves, however, with merely noticing two of the leading symptoms.

1. This patient, it will be remembered, had two well-marked rigors after delivery, the first within three hours and the second on the third day. In speaking of uterine phlebitis (page 34), we have mentioned that the occurrence of one or more rigors is a very characteristic symptom of the disease, although they may arise from other causes. Thus, a rigor within one or two hours after delivery may depend upon the uterine contractions which are going on at this time, and at a later period may arise from milk fever, weed, or incipient inflammation. To estimate its value, therefore, as a diagnostic, it must be taken in conjunction with all the existing symptoms and history of the case.

2. The pulse, in the case last recorded, exhibited great and unusual variation as to frequency, and at the time it was conjec-

tured that this might have been occasioned by slight and unnoticed rigors.

No. 259. *Emphysema during Labour*.—C. K., aged 29, first pregnancy. Upon admission into Hospital her state was the following: the os uteri was fully dilated, the waters discharged, and the head occupying the pelvis; foul discharge from vagina; retention of urine; frequent pulse, and tenderness over the uterus. She said she had been for two days in labour, and her symptoms agreed with this statement. The most careful auscultatory examination failed to detect the foetal heart, although the placental bruit had its normal character. The feel of the foetal head was such as to lead one to believe that the child was putrid, or nearly so. A short time after her admission it was observed that her face, neck, and chest, were slightly emphysematous, and, in consequence of this and the other symptoms, she was delivered with the perforator and crotchet. The child, a female, was putrid. This woman recovered well, and in less than ten months after being discharged from the Hospital she returned, and gave birth to a full-grown living foetus. Her second labour was short and easy.

By a curious coincidence, this case and No. 257, where the vectis was used on account of emphysema, occurred at the same time; and they both returned in the same month of the year following, to be again confined.

No. 11.—J. R., aged 30, first labour. The pains began in the forenoon of February 25, 1842, and the os was not fully dilated for forty-eight hours. The head remained high up in the pelvis (the pains not being very active) for several hours, when she got two doses of ergot, as it was thought that with good uterine action the child might be expelled. The symptoms, also, plainly intimated that she could not be left much longer unassisted. The soft passages were hot and swelled. The pains were augmented by the ergot, nevertheless, the child was not advanced. In about two hours and a half from the first dose, the foetal heart, whose pulsations had been carefully observed from the commencement, ceased, and in an hour subsequently perforation was performed, as she was becoming delirious, and the other symptoms were urgent. The foetus was not extracted without considerable difficulty. This woman recovered well.

From our observations upon the use of ergot in a former page, the reader can be at no loss to understand the reason of its exhibition in the present instance, which is an example of the second class of cases there spoken of. In this and class 3, if the ergot fail to accomplish the object for which it is administered, there is only one resource left, namely, delivery by the crotchet, and in several instances this necessity arose. Of this description were the following cases in the general table, which, as they presented no other feature of importance, it is needless to detail; viz., Nos. 12, 14, 68, 71, and 173.

No. 17.—E. M., aged 21, first labour, admitted April 8, 1842. In the second stage the head remained stationary for many hours, and, from the effect of the pains, ultimately became impacted in the pelvis. The fœtal heart was carefully examined from time to time with the stethoscope, and the changes it underwent accurately noted, until its final cessation, in two hours after which delivery was accomplished by the crotchet, before the symptoms had acquired a dangerous degree of intensity. This woman recovered.

There was good reason for believing that with this woman the pelvis was defective in capacity. In this and all other cases of "impaction" the use of the stethoscope is invaluable, as, by knowing the precise time at which the fœtus dies, we can by timely interposition save the woman hours, perhaps, of fruitless suffering, and thereby greatly diminish her risk of danger. Amongst the cases of impaction (or disproportion) contained in the general table were the following, whose histories do not merit more particular notice, as they so closely resembled the above; viz.: Nos. 23, 32 (considerable narrowing of the pelvis); 52 (contracted pelvis; powerful uterine action for many hours); 132 (narrowing of the outlet); 181 (second labour, delivered with perforator in first also; conjugate diameter about three inches); 183 (had a nearly similar form of pelvis).

No. 20. *Peritonitis and Gangrene of the Uterus*.—M. G., aged 33, first labour. She was bled in the first stage on account of rigidity of the os uteri, caused by early rupture of the membranes. In the second stage the head remained high in the pelvis, with feeble uterine action for several hours: she then got two doses of ergot of rye, which increased the pains very considerably during

the space of an hour, but without the desired effect of advancing the head. Under the influence of the ergot the maternal pulse fell from 126 to 96; and the foetal heart also became reduced in frequency, then intermitting, and finally ceased, two hours and a half from the first dose of the medicine. In about an hour after this perforation was resorted to. The head had to be very much broken up, and much extractive force used, before its removal could be effected. The placenta came off favourably.

Second day. Pulse 88; abdomen tympanitic, and not painful on pressure; lochia natural.

Mercurial treatment to be commenced.

Third day. Her appearance most unpromising, and the symptoms still more so; pulse 128, and feeble; tongue red at tip, and brown and furred towards the base; diarrhœa came on in the night, and continues; abdomen tumid, and acutely tender, particularly over the left side; lochia yellowish and fœtid; some tendency to delirium. Twenty-four leeches were applied to the belly, and she had a warm bath, which weakened her considerably. Her symptoms continued without any mitigation, and at 3 o'clock on the afternoon of the following day, the fourth from delivery, she expired.

Autopsy.—Peritonitis, with yellowish serous effusion. *Uterus* large, and its interior presented one mass of slough.

On the second day this woman seemed, at times, in a state little removed from actual delirium. This is a symptom we have very rarely seen in cases of puerperal fever, and never in any marked degree.

The morbid appearance which presented itself in the interior of the uterus is one which has been not unfrequently met with, and of which many examples are recorded in this Report. It is a condition of the organ identical, we believe, with the "putricentia uteri" of Boer, and other German writers. We have generally observed it in cases where the labour was very protracted, and especially where the liquor amnii had escaped at an early period.

No. 64. *Induced Labour.*—A. H., aged 30, fourth labour. This woman, whose height does not exceed four feet, is remarkably deformed, apparently from rickets in early life. Her arms and legs,

as well as the pelvis, partake of this vicious conformation. The muscular system, however, is unusually well developed for her sex, and there is no spinal curvature, so that she walks firmly and erect, though her gait is exceedingly awkward and uneven. Owing to the extreme contraction of the pelvis, her former labours had to be terminated by the use of the perforator and crotchet. This circumstance determined Dr. Johnson upon inducing premature labour. Accordingly, on October 18, 1842, the membranes were artificially ruptured, as, from her statement and appearance, there was every reason to believe that she was about seven months advanced in pregnancy. Her general health at this time was exceedingly good; the bowels had been previously regulated, and the foetal heart was very audible in the iliac region. In two hours after the evacuation of the liquor amnii (at 11 o'clock, A. M.) the pains commenced, and continued all that day and night. On the evening of the following day (19th), the os uteri was sufficiently dilated to admit of the head being readily felt; her pulse was 100, the pains weak, and she herself very restless. 20th, Pulse 108; tongue very dry; thirst; foetal heart very quick, and scarcely audible; vaginal discharge brown and offensive; pains feeble. A large scalp tumour has formed, and is pressing into the pelvic brim, but the head itself is not, properly speaking, engaged in the pelvis at all. At noon the perforator was used, and delivery effected with the crotchet, after extreme exertion and fatigue. When the child was brought away, it was at once apparent that a mistake (which ere this was suspected) had been made in the calculation, and that she was nearer nine than seven months pregnant.

On the 31st she had perfectly recovered the effects of her labour with the exception of a small vesico-vaginal fistula, more resembling a tear in the bladder than the consequence of sloughing,—indeed, there had been no amount of vaginal inflammation after delivery. This fistulous communication was situated high up, and was of sufficient size to admit a full-size gum-elastic catheter. In six weeks from the date of delivery the cure of this fistula was tried, and accomplished in the following manner: a gum-elastic catheter was introduced, and secured in the urethra; into the vagina was passed a caoutchouc bottle, with a piece of sponge attached to one side, to press against the opening in the

bladder ; every two hours the urine was drawn off through the catheter by withdrawing the peg. In thirty hours the Indian-rubber bottle was removed, on account of pain in the vagina, but the catheter was retained in the bladder for some days longer, the water, as before, being evacuated every two hours. At the end of this time she was able to void the urine herself, and was instructed to do so, at short intervals, for some days. A perfect cure was thus effected. Up to the present time, this woman has continued in the enjoyment of excellent health.

No. 84.—J. K., aged 40, first labour, came into Hospital January 27, 1843. The pains did not become active till the next evening, when the membranes ruptured, leaving the os uteri thick, rigid, and very little dilated. During the night the pains were strong, but did not produce any effect on the state of the os. On the 29th, at 9, A. M., sixteen ounces of blood were taken from the arm, and at noon the uterine orifice was fully dilated. After this the uterine action continued vigorous, but did not cause the head to advance. At 4 o'clock the bones were overlapping, the foetal heart distinct, though feeble and rapid. The pains now declined in strength, and at 8, P. M., the head was in the same position, engaged in the pelvic brim, and no advance had been made for nearly eight hours. As it was thought that good uterine action might expel the child, she got a dose of ergot, and in half an hour it was repeated. This did not improve the pains, but acted very notably upon the maternal and foetal pulse; and in one hour and a half from the first dose, the foetal heart, which had become slow and irregular, ceased to pulsate. In an hour and a half after this, delivery was effected by perforation.

She made a good recovery: during her convalescence, the pulse remained slow, and the lochial discharge was brownish and offensive.

No. 105.—C. G., aged 28, first pregnancy, admitted January 24, 1844. The first stage of her labour occupied about twelve hours, after which the head began to descend into the pelvis; but having just got so far that the tip of the ear could with difficulty be touched, it remained stationary for eight hours, when the vaginal discharge began to assume an olive colour. There was retention of urine; pulse 104; some tenderness of the uterus; the vagina swollen, heated, and tender; and no advance whatever of the

presenting part. She now got two doses of ergot, which produced strong pains, but made no impression on the head. The foetal heart was feeble and indistinct when the ergot was given, and soon after the second dose it ceased to be audible. In two hours afterwards the head was lessened, and the child extracted with the crotchet.

Excepting some slight uterine tenderness on the third day, which was removed by a turpentine stupe, this patient's recovery was uninterruptedly good.

At no period in this case could the forceps have been used with anything like safety, in consequence of the head having been so tightly fitted to the pelvis that it was with extreme difficulty the ear could be reached. This difficulty had, of course, materially increased by the time the symptoms arose which called for instrumental interference.

No. 107.—S. K., aged 33, fourth labour, admitted April 28, 1843. This woman's three previous children were dead born, two of them having been delivered with instruments. The head was arrested at the brim of the pelvis by the too great projection of the sacral promontory. Uterine action being very violent, at 3, P. M., of the 29th, blood was taken from the arm in order to moderate it. Great sinking came on at 7 o'clock, insomuch that it was feared the uterus had ruptured, which suspicion was further countenanced by the fact of the head having slightly receded, and the foetal heart having become inaudible. Delivery was now accomplished with the crotchet. She recovered well.

No. 174.—M. T., aged 25, first pregnancy. The head of the child advanced very tardily in the second stage, apparently from want of good uterine action, to promote which she got two doses of ergot. This caused the pains to increase, but the head, by the increased uterine action, was more and more pressed into the pelvis, till at length it became regularly impacted. The foetal heart ceased, and soon after this she was delivered by the perforator and crotchet, as the pulse rose to 140, and the face exhibited marks of great congestion. Her recovery was good.

This was one of the few instances where the pulse rose in frequency after the administration of ergot.

No. 186.—*Bands in the Vagina; Uterine Phlebitis; Death; Autopsy.*—The history of this case is very long, and extends

over a considerable period; nevertheless, we make no apology for giving it unabridged, as it is one of intense interest.

Julia M'Dermot, a healthy countrywoman, aged 32, came into the Hospital, in labour of her second child, February 4, 1844. Her first labour was very tedious, and the forceps had been used to extract the child, which was lifeless when born.

Upon examination the vagina was found much contracted, from adhesions and cicatrices. There was, in particular, one very formidable band, situated low down on the posterior wall of the canal, which gave strong opposition to the descent of the head after the full dilatation of the os and rupture of the membranes. The sensation conveyed upon feeling this band, with the head pressing against it, was very deceptive, and such as might have easily led an inexperienced person, or one who had not before examined her, to imagine that he was touching the edge of a very rigid os uteri. The uterine action at this time was very violent, and the head was directed forcibly against the posterior wall of the vagina. In the course of some hours smart hæmorrhage came on, owing to the tearing of some of the cicatrices; the fœtal heart ceasing very soon after, the head was lessened, and delivery completed with the crotchet. The placenta came away immediately after the child, and though the uterus contracted firmly and well, yet a profuse and continuous hæmorrhage took place. It was plain this could not come from the uterus, and on making a vaginal examination a large rent was discovered in the recto-vaginal septum, from which, evidently, the bleeding proceeded. As cold applications proved wholly inadequate to restrain the hæmorrhage, plugging the vagina was had recourse to. A silk handkerchief was accordingly introduced, and then kept closely pressed against the lacerated part. This had the desired effect, and the plug was not removed till the next day. The amount of blood lost was very considerable, and she was so much weakened by it as to require the liberal administration of stimulants. Within the first few days she had considerable fever and uterine tenderness, for which she was leeches, and brought slightly under the influence of mercury. The pain and tenderness went away, but the pulse continued somewhat accelerated, and on the eighth day she had a rigor. At this period the fæces were observed to pass per vaginam.

Within three weeks from the time of delivery the left eye became inflamed; at first this was limited to the conjunctiva, but subsequently spread to the iris and sclerotic coat. As this attack was of a serious nature, and threatened the destruction of the organ, it was thought necessary again to touch the gums with mercury. Besides this, leeches were applied, and the temple and nape of the neck were blistered. A small ulcer formed on the inner side of the cornea, in consequence of which her sight was somewhat impaired. A slight degree of inflammation lingered for a long time in the conjunctiva, but eventually disappeared under local treatment.

She left the Hospital on the 14th March. It is almost needless to add that a recto-vaginal fistula existed, but at the time of her leaving the Hospital it had so far contracted that none but fluid *fæces* escaped. It was Dr. Johnson's wish that she should have remained some time longer under treatment, in order that means might be used to prevent the re-formation of bands, and contraction of the vagina, but this she would not do.

Before proceeding to relate the history of this woman's subsequent labours, let us briefly review some of the facts contained in the foregoing details. It is unnecessary to offer any remarks upon the circumstance of her labours, as they are sufficiently plain and intelligible. The puerperal attack which followed her second confinement was undoubtedly of a phlebotic nature, and the order of succession observed by the phenomena was very characteristic of the disease. Thus within the first few days after delivery there are symptoms of uterine inflammation; these in a great measure subside, but a rapid pulse and general indisposition remain; then, on the eighth day, she gets a rigor, for which no other cause but the existence of phlebitis can be assigned: and lastly, at a still more advanced period, one of the secondary inflammations, or *sequelæ* of phlebitis, shews itself. This represents the order in which the symptoms produced by metro-phlebitis generally occur, when the disease puts on a chronic form. When the attack of ophthalmic inflammation took place, the administration of mercury was again resorted to, and apparently with beneficial effects. This was the only case we have ever seen where secondary inflammation of the eye came on in the course of puerperal fever.

It is a fact not to be overlooked, that in the above case the patient had been previously salivated on the first appearance of the disease.

Let us now pursue her history.

In January, 1845, she again came into the Hospital. On examination, the feet of a putrid five-months' foetus were found protruding from the vagina. The head, with great difficulty, and not without perforating it (which was done with the finger) was extracted. The opposition to its removal was occasioned by the size and firmness of the cicatrix on the posterior wall of the vagina. The after-birth was expelled by pressure on the uterus. She recovered well after this abortion, and was discharged from the Hospital, with a strict injunction that should she again conceive, she should present herself when advanced to the seventh month of utero-gestation, and not wait for the natural accession of labour.

We saw no more of her till June 4, 1846, when for the third and last time she came under our care. She was now in the ninth month of pregnancy: the os was fully dilated; the membranes unbroken; the pains strong; and the head presenting. Foetal heart distinct. The principal cicatrix was situated immediately above the perinæum, and was continued upwards on each side in the form of a semilunar fold. The recto-vaginal septum felt quite gristly and cartilaginous. It was with extreme difficulty that three fingers could be admitted into the vagina, owing to the extent and firmness of these cicatrices.

She was admitted at 4 o'clock in the evening, her labour having commenced the same morning. At 6 o'clock, the head, in consequence of the rupture of the membranes, began to bear on the large band before described. After some time it appeared evident that this band was not the sole cause of the arrest of the head, but that its descent was also impeded by the contraction of the vagina higher up. The foetal heart was now very rapid. The pains which were previously very violent, had become moderated under the use of tartar emetic. At 9 o'clock matters were nearly in the same way; the pains stronger. The edge of the band was now slightly incised at each side with a bistoury. At 10 o'clock it was observed that immediately after each pain the foetal heart was only 64, but that before the accession of another pain it rose to 100.

In an hour more, its pulsations were only 40, and in half an hour more they ceased to be audible. All this time the pains were most powerful, and recurred at short intervals; nevertheless, the head did not advance in the least degree. At half-past 12 o'clock (midnight) it was determined to lessen the head, as it had made no progress since the escape of the waters at 6 o'clock, and there was imminent danger of rupture of the uterus. Furthermore, it was tolerably certain that the fœtus was dead, and quite evident that its expulsion could not possibly take place without producing an enormous laceration of the resisting parts. After lessening the head, it required nearly two hours of unremitting exertion before it could be extracted, and during this time a good deal of blood flowed from the vagina, and at times from the rectum, as the communication between the two canals was unclosed. In withdrawing the base of the skull, a considerable laceration took place, the large cicatrix being torn out from its attachment to the left labium and lower part of the vagina. Child, a girl. The placenta was speedily thrown off, and no hæmorrhage ensued. During the operation she was at times very faint, and required some wine. Shortly after delivery she got a grain and a half of opium and two grains of calomel.

The following day she was wonderfully well and cheerful.

Third day. No complaint of any uneasiness; pulse 110; belly tumid; some tendency to diarrhœa. She was ordered some blue pill and mercurial frictions; but no force or exhortation could persuade her to take the former or submit to the latter, so she merely got some Dover's Powder.

Fourth day. Looks well and is cheerful; appetite good; pulse 120; tongue rather white; belly rather tympanitic; some uneasiness in right side of abdomen. She is still determined in her opposition to the use of mercury, though the necessity for giving it has been fairly stated to her. Towards evening her stomach was sick.

Fifth day. Does not look so well; had a restless and unquiet night; is now alarmed about herself, and will submit to any treatment; pulse 130; respiration hurried; tongue white, dry, and furred; great thirst; abdomen tympanitic and tender across lower part; some cough and expectoration. She was now put sitting up, and bled from a large orifice, to eighteen ounces, when

she fell into a state of complete syncope, and had a slight convulsive fit. Afterwards twenty leeches were applied to the abdomen, and followed by a bran poultice.

Mercurial frictions thrice daily.

Vesperé. No improvement; constant nausea; pulse 120, and much weaker; feels sensible of great danger, and bitterly deplores her obstinacy in not having taken the medicine.

To have a pill with two grains of Opium and three of Calomel.
Mercurial inunction.

Sixth day. Had some broken repose; pulse 120; countenance sallow and dirty-looking; no appetite; bowels not affected in the night; vomiting has ceased; belly less tender.

To have of Blue Pill and Calomel, each gr. i.
Opium, gr. $\frac{1}{2}$, every third hour.
To continue the frictions.

From this time her symptoms gradually became worse, and she died on the morning of her eighth day.

Autopsy, eight hours after decease.—Much effusion of yellow serum, with flakes of lymph, into abdominal cavity. *Uterus* large; considerable quantities of pus in the sinuses, more particularly those of the upper part of the broad ligaments. Internally the uterus was healthy.

No. 191. *Putricentia Uteri; Phlebitis.*—B. B., aged 28, first labour. This woman was admitted November 4, 1843. She suffered a good deal from spurious pains and tenderness of the uterus, on account of which she was bled, and got an opiate, with five grains of calomel at bed-time. After some respite, true labour pains set in. As the os uteri was unrelaxed (the liquor amnii having escaped at an early period), she got antimonial mixture to promote dilatation.

On the 8th, at 10, P. M., the head had passed through the os, and was engaged in the upper part of the pelvis, but the pains were producing little effect.

9th, 8, A. M. Urine drawn off with catheter; pulse 120; brown, offensive discharge from the vagina, which is tender and swollen; no advance of the head during the night; pains inefficient. At

noon she got two doses of ergot, which seemed to increase the pains, but produced no descent of the head. In about an hour the foetal heart's pulsations ceased to be audible, and, some time after this, delivery was effected by the crotchet.

On the second day there was uterine tenderness; for this she was bled and put on the use of mercury both internally and externally. The inflammatory symptoms were not preceded by rigor. From the commencement of the attack there was quickness of pulse and diarrhœa. On the eighth day she expired.

Autopsy.—Effusion of straw-coloured serum into the peritonæal cavity. The interior of the *uterus* sloughy, and upon incising it pus escaped from the sinuses in considerable quantity.

No. 203. *Bands in the Vagina.*—J. K., aged 40., second labour; had been delivered with instruments in her first. Upon examining this woman per vaginam on the morning of her admission, March 28, 1844, a firm band was found encircling the upper part of the vaginal canal, at about the distance of one inch from the os uteri; posteriorly it seemed to be connected or identified with the lip of the os itself. The vagina was so far occluded by this cicatrix, as to render the passage of more than one finger through the stricture impossible. The os uteri at this time was dilated to the size of a half-crown, and the head was presenting. During the day the first stage progressed slowly, and in the evening the os uteri was found to be somewhat larger than a crown-piece, and as the membranes had broken, the head was beginning to press upon the constricted portion of the vagina, thereby giving rise to a deceptive sensation, such as was remarked in M'Dermot's case, No. 190, namely, that the edge of the band was a rigid os uteri.

A bistoury was now carefully introduced, and with it the free edge of the stricture was divided to a very slight extent at each side. A mere trace of blood followed this operation. Later in the evening the pains became very violent, and as rupture of the uterus was dreaded, she got an opiate and was bled, with a view of moderating them.

She got no repose during the night, and the next morning (29th) the os was fully dilated, but the foetal heart, which the night before had been distinct, was now nearly inaudible, and not very long after became completely so.

At 2, P. M., the head was perforated, it having remained for

some hours immoveably fixed in one position, apparently in consequence of contraction of the pelvis, as all trace of the band had long since disappeared. The child was extracted without any great difficulty, and the uterus acted well. The placenta not coming away at the expiration of two hours, and pressure failing to dislodge it, the hand was introduced. It was found morbidly adherent throughout, but with care and patience was separated, and brought away entire. A short time after this she had a smart rigor, and the belly became tympanitic.

Vesperé. Pulse 116.

Calomel, 5 grs.

James's Powder, 3 grs.

Opium, 1 gr. in two pills.

Mercurial frictions, n. and m.

Second day. Slept well; pulse 88; tongue clean and moist; bowels twice affected; belly tympanitic; some tenderness at the fundus uteri; lochia red and abundant.

Turpentine stupe to abdomen.

Calomel and James's Powder, each gr. i.

Opium, gr. $\frac{1}{6}$ every three hours.

Frictions thrice daily.

Vesperé. Pulse 104; belly much less swelled; diarrhœa; stools red and liquid, with lymph-like shreds floating through them; is vomiting a whitish fluid; uterus large, and extremely tender; cold sweat on the face.

One grain of Opium in a pill now; and another in two hours.

Third day. Was so weak and exhausted in the early part of the night,—apparently from the continued vomiting,—that she had to get some burned brandy and wine whey; pulse now 100; five dejections from the bowels, of same nature as before; vomited some greenish matter lately; frequent hiccough; uterus less tender. Altogether, her condition this day was most alarming, if not hopeless.

To have rice water and iced chicken broth.

A blister on epigastrium.

Anodyne enema.

Frictions as hitherto.

Vesperé. Purging going on still; some vomiting also.

One grain of Opium and Capsicum now, and in four hours.
Anodyne enema.

Fourth day. Slept tolerably well; pulse 88; tongue moist and clean; belly soft; had four yellow liquid motions; vomited, and had hiccough at times in the night; uterus very tender and large; no lochial discharge.

To have lime-water and boiled milk for a drink.
Anodyne enema.

Vesperé. No material change.

Pills as on last night.

Fifth day. Manifest improvement in all the symptoms; slept well; pulse 88; some appearance of ptyalism; no hiccough or vomiting; bowels three times moved in the night. From this time it may be said that she turned the corner. She continued to improve, until her health was completely re-established.

Within three weeks from the time of delivery she was up, and shortly after was removed to the chronic ward, to be under treatment for the state of the vagina.

Considering the circumstances of this woman's labour, and the symptoms which she had within the first few days after delivery, her recovery cannot but be regarded as most surprising. There was one good symptom, however, generally present, namely, tranquillity of the circulation, which afforded ground for much hope of her ultimate welfare.

No. 218.—J. T., aged 25, came into Hospital June 11, 1844, pregnant of her first child. From this date until the morning of the 14th, when true labour set in, she suffered from occasional false pains. Soon after the os uteri began to dilate the membranes unfortunately ruptured, and in the evening it was necessary to bleed her, and give antimonial solution to promote relaxation of the soft parts. At noon on the 15th, the os uteri was fully opened. The pulse at this time was 100; pains good; retention of urine; no uterine tenderness; foetal heart very distinct. At 3 o'clock, as the pains were declining, she got a sti-

mulating enema; at 8 o'clock the pulse was 110; foetal heart very audible in left iliac region; pains weak and wholly inefficient; the discharge from the vagina is yellow and fetid; the base of the skull has not passed the pelvic brim; her strength is much exhausted; the ear of the child cannot be reached without occasioning severe pain. At 9 o'clock she got a dose of ergot, which was repeated in forty minutes. Some good pains were thereby produced, but they made no impression whatever on the head. In an hour from the first dose the foetal heart's pulsations ceased, having been very slow and irregular for some time previously. At midnight she was delivered with the crotchet, as the head remained precisely in the same position, and the symptoms had become more urgent.

The placenta was retained from inertia of the uterus, and had to be removed by the introduction of the hand at the expiration of two hours from the time of delivery. At noon on the day following the pulse was 98, and there was tenderness of the uterus, for which a turpentine stupe was applied.

Mercurial inunction three times daily.

Vesperé. Slept most of the day, and said she was quite free from pain; bowels not moved since before delivery; belly tympanitic, but not tender.

Oil and Turpentine in morning.

Third day. Rested well; had a slight rigor this morning; pulse 98; uterus slightly tender on pressing the fundus, but otherwise no pain complained of.

Eighteen leeches over the uterus.

Vesperé. Pulse 125; bowels four times moved; thirst; tongue white; tenderness gone; eats her food.

Anodyne draught at 9 o'clock.

Frictions to be continued.

Fourth day. Feels quite well, she says; pulse 116; had one griping motion from the bowels; lochia scanty and dark-coloured; no appearance of milk.

Vesperé. Pulse 124; some pain on pressure over the right side of the uterus; her face frequently changes colour.

Anodyne draught.

Fifth day. Rested very well; bowels not disturbed; pulse 120; belly very tumid; no sign of milk; lochia scanty; tongue yellowish; uterus tender on right side.

Eighteen leeches over the uterus.

Frictions thrice daily.

Vesperé. No improvement in any respect.

To have one grain of Calomel and an anodyne draught.

Sixth day. Pulse 118; no complaint of pain or uneasiness; the breathing seems laboured; the pulsation of the carotids is very perceptible, and communicates a vibratory movement to the head; her face has a very unpromising aspect; the skin is moist; the breath has a very heavy, sickening odour; lochia scanty, and of a dark, unhealthy colour.

From a review of all her symptoms this day it was considered that she had phlebitis, and a very unfavourable prognosis was formed of the result of her case.

Vesperé. Pulse 124; respirations 36; not the slightest appearance of mercurial action on the system; diarrhœa has come on.

Anodyne draught.

It would be tedious and unprofitable to pursue further the minute details of her case. Suffice it to say, that from this time she gradually declined in strength, but suffered no pain of any kind. She expired on the morning of her tenth day, and during the last forty-eight hours there was very profuse perspiration. She retained the most perfect composure and collectedness up to the moment of dissolution. Wine was freely allowed her for three days before her death.

Autopsy, ten hours after death.—No peritonitis, but there was some brownish liquid effusion into the abdominal cavity.

The *uterus* was large and ill contracted. When cut into, the sinuses were found distended with pus. The interior of the organ was very dark, and apparently gangrenous.

In the lower part of both *lungs*, but particularly the right, there existed several small, circumscribed tumours, which, when cut into, were found to contain a brown, grumous, semifluid matter.

The *liver* and *spleen* much softened in structure.

Kidneys very pale and exsanguine.

This woman had been harassed with spurious pains for some days before true labour set in. This occurrence must always be regarded as a very unfavourable antecedent to a tedious labour; for not only does it reduce the patient's strength, thereby rendering her less able to endure the unavoidable fatigue and exertion, but it also leaves a disposition in the uterus to take on inflammatory action, under the operation of causes which otherwise would have proved inadequate. Vomiting was a symptom entirely absent throughout this case, and be it remarked that there was no peritonitis. The interior of the uterus presented that morbid appearance described under the name of "putrescentia uteri." In connexion with this fact it will be remembered, that the membranes ruptured very early in the labour. The small tumours in the lungs were, doubtless, incipient abscesses, consequent upon the phlebitis.

No. 227.—M. H., aged 22; first labour; admitted August 14, 1844, at 9, A. M., at which time the os uteri was fully dilated; the membranes broken; the foetal heart very audible; and the head at the brim of the pelvis. She is a plethoric woman, with a swollen, red face, and is complaining occasionally of headach. Bowels free. At 3, P. M., the head was somewhat lower in the pelvis, but the pulse was 100, and she had retention of urine. Foetal heart is still audible, but has become very feeble and rapid; the head makes some advance with the pains, which are strong and frequent. At 5 o'clock the foetal heart was no longer audible, and the pains were weaker, and made no impression on the head.

To have a stimulating enema.

At 8 o'clock the head was in the same position, and the pains had nearly ceased, although she had been kept as much as possible in the erect posture; pulse 120; vagina hot; the discharge very fetid, and of a brown colour. As no advance had been made

by 10 o'clock, she was delivered with the crotchet. Some hæmorrhage preceded and accompanied the expulsion of the placenta. Child a girl, and from the appearance of the funis it was evident that it must have been some hours dead. The pulse remained quick for a week after delivery, but this was the only bad symptom. She was, however, kept on slop diet, and confined to the horizontal position, during this time: in a fortnight she was able to go home.

No. 230.—C. D., second child; delivered May 15, 1844. The first stage of her labour was concluded in twenty-four hours, when the head began to enter the pelvis, and, having got some way down into its cavity, it became fixed, and remained immovable. The foetal heart continuing audible after the appearance of symptoms which called for delivery, ergot was given as a forlorn hope; it being thought possible that the child might be expelled by energetic uterine action. The ergot did not materially increase the pains, but very obviously reduced the maternal pulse, as well as the foetal heart; and the latter ceased an hour after giving the medicine. The head was not in the least degree advanced, and the labour had to be terminated by the use of the perforator and crotchet.

Her convalescence proceeded most favourably, and she was able to leave the house in a fortnight and three days after her confinement.

No. 246.———, aged 29; first labour; admitted November 28, 1844. The first stage was protracted to thirty-seven hours, in consequence of the early rupture of the membranes. In the second stage the head remained high in the pelvis, as the capacity of the latter was manifestly much below the standard. The foetal heart having ceased, she was delivered with the perforator and crotchet. The extraction of the head required much time and exertion, nor was it effected until most of the bones forming the calvarium had been separately removed. It should be mentioned, that the anterior lip of the os uteri remained unobliterated up to the time of the operation, and very much impeded the use of the instruments.

No. 249.—A. G., aged 36; fifth labour; a small woman, of unhealthy aspect, and three months a widow; admitted December 11, 1844, at noon. The os uteri at this time was fully dilated,

the membranes were unbroken, and the head was loose and floating above the brim of the pelvis. Her former labours had been tedious, and one of her children was dead-born.

Upon the rupture of the membranes, which occurred soon after her admission, the os collapsed to the size of a shilling. With the exception of some transient, irregular pains, we may say that she had no labour on her from this time until noon on the 13th, when regular pains came on again, and at 10, P. M., the os was fully dilated, but the head still at the brim; foetal heart audible; pains weak. She now got two doses of ergot, but without any beneficial effect. As there was no urgent symptom, she was left till morning (14th), when we found that no advance whatever had been made, and that the foetal cardiac sounds were no longer audible; the pulse had become quick; she had some vomiting, and was much exhausted, although she had been getting a liberal allowance of nourishing food. At 1, P. M., the head was lessened, and after an hour's exertion brought down with the crotchet. There seemed to be considerable disproportion between the size of the head and the pelvis. Child a boy. The funis was quite putrid and rotten.

For some days this woman was in a precarious state, the pulse being rapid, and the abdomen tumid and tender. She was put on the use of mercury, and began slowly to amend after the system had been brought under its influence. She returned home January 7, 1845.

This was a rather curious sort of case, and what makes it so was the circumstance of the os uteri closing, and labour being completely suspended for nearly thirty-six hours, when the pains recurred, and the os again dilated.

She seemed a broken-hearted, unhealthy woman: and at no time were the pains vigorous or efficient.

No. 251.—M. G., aged 30, first labour; admitted November 30, 1844. This is a highly scrofulous-looking woman, with red hair and of stout make. She was annoyed with spurious pains from the time of her admission until December 3rd, when labour commenced. On the morning of the 4th the os was the size of a shilling, and very thin. At 10, P. M., it was nearly fully dilated, and the pains were strong, the membranes having recently rup-

tured. The anterior segment of the os was not entirely obliterated till 11 o'clock the next day (5th). The foetal heart at this time was distinct, though feeble; pulse 84; head just beginning to descend into the pelvis; some abdominal tenderness; vaginal discharge brown and offensive; pains ineffective; and the patient complaining of extreme exhaustion. At 2 o'clock neither Dr. Johnson nor we could detect the foetal heart's sounds, after a most patient and minute exploration. There certainly was a pulsation to be heard, but it was a *single* beat, and exactly synchronous with the mother's pulse.

At 5, P. M., as the symptoms had acquired a greater degree of intensity, and no advance had been made, the head was lessened. It required strong force to extract it. The funis had already changed its colour, and the blood in the umbilical vein was coagulated.

She was rubbed in with mercurial ointment on the morning and evening of this day, and got three grains of calomel and three of ipecacuanha. The mercurial frictions were continued night and morning. She went on as well as possible up to 3 o'clock in the afternoon of her fourth day, at which time she was suddenly attacked with pain in the uterine region, and to relieve this a turpentine stupe was applied.

Vesperé. Pulse 92, and full; is perspiring freely; no milk; gums red and spongy; bowels confined. As the pain had not been relieved she was bled to sixteen ounces.

To have two grains of Calomel and six grains of Dover's Powder.
Oil and Turpentine in the morning.

Fifth day. Pulse 96; breasts becoming hard; abdomen tympanitic; uterus painful on pressure, and when she coughs or turns in the bed.

Bran poultice on belly.

Seventh day. Pulse 80; mouth sore from the mercury; belly still full and tender over the left side of the uterus; breasts well distended with milk.

Eighteen leeches over the pain.

Eighth day. Seemed to be going on remarkably well until 7, P. M., when she suddenly got a return of pain in the abdomen. It

is right to mention that she got chicken broth this day, for the first time.

Turpentine stupe.

Fetid enema.

Calomel, grs. ii.

Dover's Powder, grs. vi.

Oil and Turpentine in the morning.

For the next week she remained in a very dangerous state, with symptoms of low peritonitis, viz. quick pulse, tumid and painful abdomen, diarrhœa, and occasional vomiting. During this period the treatment chiefly consisted in the exhibition of small doses of spirits of turpentine, and blistering the abdomen.

On the 19th December she began to amend, and continued improving until the 25th, when she was attacked with phlegmasia dolens of the left leg, beginning in the calf. Under this and the abdominal disease she sank on the 22nd January, having, for many days previously, suffered from constant diarrhœa and irritability of stomach.

Autopsy. — Universal peritonitis, with copious effusion of lymph, agglutinating the omentum and intestines into one mass. In the right iliac region was a deposit of pus underneath the serous membrane.

Such is a brief record of all the interesting cases of tedious and difficult labour which occurred in the Hospital during the period of this Report.

TABLE I.

This shews the respective ages of the two hundred and fifty-nine tedious cases included in the General Table: thus, eight women were eighteen years; three were nineteen, and so on:—

No. of Women,	8	3	10	11	25	25	11	21	23	19	22	11	27
Age,	18	19	20	21	22	23	24	25	26	27	28	29	30
No. of Women,	3	9	7	4	4	4	2	4	1	1	1	3	
Age,	31	32	33	34	35	36	37	40	41	42	45	38	

TABLE II.

This exhibits the length of the labour in all the above cases: thus, one was of twenty-two hours' duration; eight of twenty-five, and so on:—

No. of Women,	1	8	32	11	15	11	41	2	6	8	5	9	26	
Hours ill. . .	22	25	26	27	28	29	30	31	32	33	34	35	36	
No. of Women,	5	3	5	9	1	4	4	2	1	4	1	9	1	
Hours ill, . .	37	38	39	40	41	42	43	44	45	46	47	48	49	
No. of Wo- men, . .	8	1	2	2	2	2	1	1	8	1	2	2	3	1
Hours ill,	50	51	52	53	54	55	57	58	60	63	68	70	72	76

TABLE III.

This is the "General Table," to which we have had occasion so frequently to refer. It contains in a tabular form the chief particulars relating to the *two hundred and fifty-nine* cases of tedious and difficult labour. In the column headed "Presentation," v. signifies that the vertex presented, and F. to P. face to pubis. In the column marking whether the child was born alive or dead, the figure 1 indicates that it was born alive; the letter D. dead: and the letters D. p., dead and putrid. Under the head of "Delay in what Stage," the figures 1 and 2 represent the first and second stages. In the column headed "Mode of Delivery," the letter N. implies that it was by the natural efforts; the letter P. by perforation; the letter F. by the forceps; and the letter V. by the vectis or lever. Lastly, in the column marking the result to the mother, the letter R. stands for recovered; and the letter D. died. The letter v. (*vide*), under the head of "Observations," indicates that the case will be found detailed in some of the preceding pages, and may be discovered by knowing its number in the table.

Number of Case.	Age of Patient.	Presentation.	Hours in Labour.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Delay in what Stage.	Mode of Delivery.	Result to Mother.	Observations.
1	25	v.	30	2	B.	1	2	N.	R.	
2	29	v.	30	2	B.	D.	2	N.	R.	
3	35	F. to P.	26	5	B.	D.	2	F.	D.	V.
4	22	v.	36	1	B.	D.	2	P.	D.	V.
5	21	v.	30	1	G.	1	1	N.	R.	
6	24	v.	28	1	B.	1	2	F.	R.	V.
7	30	v.	30	1	B.	D.	2	N.	R.	
8	28	v.	40	1	B.	D.	2	N.	R.	
9	32	v.	40	1	G.	1	1-2	N.	R.	
10	28	v.	25	2	G.	D.	2	N.	R.	
11	30	v.	54	1	G.	D.	2	P.	R.	V.
12	26	v.	28	1	B.	D.	2	P.	R.	V.
13	22	v.	29	1	B.	D.	2	V.	R.	V.
14	38	v.	30	8	B.	D.	2	P.	R.	V.
15	34	v.	30	1	G.	1	1	N.	R.	
16	23	v.	48	1	G.	1	2	V.	R.	V.
17	21	v.	39	1	G.	D.	2	P.	R.	V.
18	30	v.	30	3	G.	1	2	N.	R.	
19	27	v.	36	1	B.	1	1	N.	D.	V.
20	33	v.	60	1	B.	D.	1-2	P.	D.	V.
21	27	v.	30	2	B.	1	2	N.	R.	
22	26	F. to P.	26	2	B.	1	2	N.	R.	
23	28	v.	72	1	G.	D.	1-2	P.	R.	V.
24	31	v.	60	1	G.	D.	1	N.	R.	
25	23	v.	30	1	B.	1	1	N.	R.	
26	27	Face.	30	3	B.	1	1	N.	R.	
27	24	v.	72	1	G.	D.	1	P.	R.	V.
28	25	v.	43	1	G.	1	1-2	F.	R.	V.
29	22	v.	30	1	G.	1	1	N.	R.	
30	21	v.	30	1	G.	D.	1	N.	R.	
31	45	v.	30	1	B.	1	2	N.	R.	
32	23	v.	26	4	G.	D.	2	P.	R.	V.
33	30	v.	39	1	G.	D.	2	V.	R.	V.
34	32	v.	52	1	B.	1	1	N.	R.	
35	24	v.	30	1	B.	1	1	N.	R.	
36	18	v.	30	1	B.	1	1	N.	R.	
37	22	v.	28	1	G.	1	2	N.	R.	
38	29	v.	42	1	B.	1	1	N.	R.	
39	27	v.	36	1	B.	D.	2	N.	D.	V.
40	26	v.	40	1	B.	D.	1-2	F.	R.	V.
41	35	v.	30	1	G.	1	1	N.	R.	
42	22	v.	39	1	B.	1	1	N.	R.	

Number of Case.	Age of Patient.	Presentation.	Hours in Labour.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Delay in what Stage.	Mode of Delivery.	Result to Mother.	Observations.
43	22	v.	28	1	G.	1	1	N.	R.	
44	20	v.	37	1	B.	1	1	N.	R.	v.
45	27	v.	32	1	B.	1	2	N.	R.	
46	18	v.	53	1	B.	1	2	N.	R.	
47	33	v.	35	1	B.	1	2	N.	R.	
48	28	v.	27	1	B.	1	1	N.	R.	
49	28	v.	26	1	B.	1	2	N.	R.	
50	33	v.	30	2	B.	D.	1-2	N.	R.	
51	23	v.	26	1	G.	D.	2	N.	R.	
52	25	v.	29	1	B.	D.	2	P.	R.	v.
53	28	v.	60	1	G.	D.	1-2	N.	R.	
54	32	F. to P.	31	11	B.	D.	2	N.	R.	
55	25	v.	63	3	B.	1	2	N.	R.	
56	38	v.	26	7	B.	D.	2	V.	R.	v.
57	28	v.	47	1	B.	D.	1-2	N.	R.	
58	29	v.	42	1	B.	1	2	N.	R.	
59	26	v.	50	1	B.	1	1	N.	R.	
60	26	v.	29	1	G.	1	1	N.	R.	
61	30	v.	36	1	B.	1	1-2	N.	R.	
62	30	v.	70	1	B.	1	1	N.	R.	
63	18	v.	39	1	B.	D.	1	P.	R.	v.
64	30	v.	50	4	B.	D.	2	P.	R.	v.
65	24	v.	30	1	G.	1	1	N.	R.	
66	27	v.	30	1	G.	1	1	N.	R.	
67	26	v.	33	2	B.	D.	2	N.	R.	
68	23	v.	48	1	B.	D.	2	P.	R.	v.
69	31	v.	29	1	B.	1	1	N.	D.	v.
70	42	v.	30	6	G.	1	2	N.	R.	
71	30	v.	43	1	B.	D.	2	P.	R.	v.
72	28	v.	68	4	B.	1	1	N.	R.	
73	23	v.	28	1	G.	1	1	N.	R.	
74	18	v.	51	1	B.	1	1	N.	R.	
75	27	Face.	26	3	B.	D.	2	N.	R.	
76	25	v.	36	1	G.	1	2	N.	R.	
77	20	v.	26	1	B.	1	1	N.	R.	
78	38	v.	35	1	G.	D.	1	N.	R.	
79	26	v.	36	1	G.	1	1-2	N.	R.	
80	31	v.	45	1	B.	D.	1-2	F.	R.	v.
81	26	Face.	36	1	B.	1	2	V.	R.	v.
82	37	v.	30	5	B.	1	2	F.	R.	v.
83	30	v.	30	1	B.	D.	2	N.	R.	
84	40	v.	36	1	B.	D.	1-2	P.	R.	v.

Number of Case.	Age of Patient.	Presentation.	Hours in Labour.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Delay in what Stage.	Mode of Delivery.	Result to Mother.	Observations.
85	30	v.	26	1	G.	D.	2	N.	R.	
86	36	v.	34	3	B.	1	2	N.	R.	
87	22	v.	34	1	G.	1	1	N.	R.	
88	20	v.	33	1	B.	D.	1	N.	R.	
89	23	v.	28	1	B.	1	1	N.	R.	
90	18	v.	35	1	B.	1	1	N.	R.	
91	33	v.	33	1	G.	D.	1-2	V.	R.	V.
92	29	v.	27	1	B.	1	1	N.	R.	
93	22	v.	36	1	B.	D.	2	N.	R.	
94	28	v.	29	1	G.	D.	1	N.	R.	
95	34	v.	36	1	B.	D.	2	N.	R.	
96	30	v.	26	1	B.	1	2	V.	R.	V.
97	29	v.	26	1	G.	D.	1	N.	R.	
98	25	v. and hand.	54	2	B.	D.	2	N.	D.	V.
99	29	v.	26	1	G.	D.	1	N.	R.	
100	28	v.	28	1	B.	1	1	N.	R.	
101	20	v.	40	1	B.	1	1-2	F.	D.	V.
102	21	v.	32	1	B.	D.	1-2	F.	R.	V.
103	27	v.	36	1	G.	D.	2	P.	R.	V.
104	27	v.	76	1	G.	D.	1-2	P.	R.	V.
105	28	v.	46	1	G.	D.	1-2	P.	R.	V.
106	22	v.	36	1	B.	1	1	N.	R.	
107	33	v.	46	4	G.	D.	2	P.	R.	V.
108	41	v.	53	2	G.	D.	2	P.	R.	V.
109	26	v.	61	1	B.	D.	1-2	P.	R.	V.
110	25	v.	48	1	B.	1	1-2	V.	R.	V.
111	20	v.	42	1	G.	D.	1-2	V.	R.	V.
112	25	v.	40	1	G.	1	2	N.	R.	
113	22	v.	29	1	B.	D.	2	F.	R.	V.
114	30	v.	48	2	B.	D.	2	N.	R.	
115	23	v.	29	1	G.	1	1	N.	R.	
116	27	v.	36	1	B.	D.	2	P.	R.	V.
117	28	v.	30	1	B.	D.	2	N.	R.	
118	32	v.	68	4	B.	D.	2	F.	D.	V.
119	26	v.	36	1	B.	D.	2	N.	R.	
120	22	v.	36	1	G.	D.	2	P.	R.	V.
121	23	v.	36	1	G.	1	1	N.	R.	
122	23	v.	26	1	G.	1	1	N.	R.	
123	26	v.	55	1	G.	1	1-2	N.	R.	
124	25	v.	27	1	G.	1	1-2	N.	R.	
125	23	v.	37	1	G.	D.	1	N.	R.	
126	22	v.	26	1	B.	D.	1	N.	R.	

Number of Case.	Age of Patient.	Presentation.	Hours in Labour.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Delay in what Stage.	Mode of Delivery.	Result to Mother.	Observations.
127	37	v.	48	1	B.	1	1-2	F.	D.	V.
128	33	v.	43	3	B.	1	2	N.	R.	
129	22	v.	60	1	G.	1	1	N.	R.	
130	25	v.	55	1	B.	D.	1-2	N.	R.	
131	25	v.	39	1	G.	1	1	N.	R.	
132	32	v.	29	1	G.	D.	2	P.	R.	V.
133	21	v.	34	1	B.	1	1	N.	R.	
134	25	v.	36	1	B.	D.	1-2	N.	R.	
135	33	v.	60	1	G.	D.	1-2	P.	R.	V.
136	30	v.	26	3	G.	1	2	F.	R.	V.
137	28	v.	46	1	G.	D.	1-2	P.	D.	V.
138	26	v.	35	1	B.	1	2	N.	R.	V.
139	29	v.	38	1	G.	1	1	N.	R.	
140	23	v.	33	1	G.	1	1	N.	R.	
141	29	v.	26	4	B.	1	2	V.	R.	V.
142	30	v.	36	1	B.	D.	1	N.	D.	V.
143	40	v.	27	2	B.	1	2	F.	R.	V.
144	22	F. to P.	36	2	G.	1	2	N.	R.	
145	22	v.	33	1	G.	1	1-2	N.	R.	
146	19	v.	30	1	B.	1	2	N.	R.	
147	21	v.	30	1	B.	1	2	F.	R.	V.
148	22	v.	30	1	B.	1	2	N.	R.	
149	25	Face.	44	1	B.	D. p.	1	N.	D.	V.
150	28	v.	30	1	B.	D.	2	F.	R.	V.
151	24	v.	30	1	B.	1	1	N.	R.	
152	22	v.	48	1	B.	1	1-2	N.	R.	
153	27	v.	40	1	B.	D.	1-2	P.	R.	V.
154	26	v.	60	1	B.	D.	1-2	N.	D.	V.
155	27	v.	26	6	G.	1	2	N.	R.	
156	30	v.	28	1	G.	1	1	N.	R.	
157	30	F. to P.	50	3	B.	1	1-2	N.	R.	
158	28	v.	36	1	G.	1	1	N.	R.	
159	24	v.	36	1	G.	1	1	N.	R.	
160	23	v.	26	1	B.	1	1	N.	R.	
161	22	v.	40	1	B.	1	1	N.	R.	
162	18	v.	25	1	B.	1	1	N.	R.	
163	26	v.	27	1	G.	D.	2	N.	R.	
164	23	v.	36	1	B.	D.	1-2	N.	R.	
165	21	v.	34	1	G.	1	2	V.	R.	V.
166	27	v.	28	1	G.	1	1	N.	R.	
167	18	v.	28	1	G.	D.	2	N.	R.	
168	30	v.	30	1	B.	1	1	N.	R.	

Number of Case.	Age of Patient.	Presentation.	Hours in Labour.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Delay in what Stage.	Mode of Delivery.	Result to Mother.	Observations.
169	28	v.	37	1	B.	D.	2	F.	D.	v.
170	35	v.	50	1	B.	D.	1-2	P.	D.	v.
171	36	v.	29	8	G.	1	2	N.	R.	
172	28	v.	26	2	B.	1	1	N.	R.	
173	30	v.	35	1	B.	D.	2	P.	R.	v.
174	25	v.	25	1	G.	D.	1-2	P.	R.	v.
175	23	v.	28	1	B.	D.	1-2	N.	R.	
176	26	v.	33	1	G.	1	1-2	N.	D.	v.
177	27	v.	32	1	B.	1	1-2	N.	R.	
178	24	v.	35	1	G.	1	1	N.	R.	
179	25	v.	26	2	G.	1	2	N.	R.	
180	24	v.	29	1	B.	D.	2	N.	R.	
181	30	v.	40	2	G.	D. p.	2	P.	R.	v.
182	24	v.	26	1	G.	1	2	N.	R.	
183	32	v.	25	1	B.	D.	2	P.	R.	v.
184	30	v.	36	1	B.	D.	2	V.	R.	v.
185	26	v.	28	1	B.	1	2	V.	R.	v.
186	32	v.	30	2	G.	D.	2	P.	R.	v.
187	30	v.	50	1	G.	D.	1-2	P.	R.	v.
188	26	v.	32	1	G.	1	2	N.	R.	
189	26	v.	27	1	B.	1	2	N.	R.	
190	25	v.	40	1	G.	1	1-2	N.	R.	
191	28	v.	60	1	G.	D.	1-2	P.	D.	v.
192	25	v.	29	1	G.	1	2	N.	R.	
193	28	v.	30	1	B.	1	2	N.	R.	
194	20	v.	31	1	B.	1	2	N.	R.	
195	30	v.	30	1	B.	1	2	N.	R.	
196	19	v.	27	1	B.	D.	1	N.	R.	
197	22	v.	30	1	B.	D.	2	N.	R.	
198	20	v.	34	1	B.	1	1-2	N.	R.	
199	36	v.	36	1	B.	1	1	N.	R.	
200	27	v.	50	1	G.	D.	1-2	P.	R.	v.
201	23	v.	26	1	B.	1	1	N.	R.	
202	30	v.	28	2	G.	1	2	F.	R.	v.
203	40	v.	33	2	G.	D.	2	P.	R.	v.
204	26	Face.	44	1	B.	D.	1-2	P.	R.	v.
205	23	v.	49	1	B.	D.	1-2	P.	R.	v.
206	23	v.	56	1	B.	1	1-2	N.	R.	
207	23	Face.	28	1	B.	1	1-2	N.	R.	
208	26	v.	33	1	B.	1	1	N.	R.	
209	30	v.	30	1	B.	1	1	N.	R.	
210	18	v.	72	1	G.	1	1	N.	R.	

Number of Case.	Age of Patient.	Presentation.	Hours in Labour.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Delay in what Stage.	Mode of Delivery.	Result to Mother.	Observations.
211	40	V.	40	1	B.	D.	1	N.	R.	V.
212	25	V.	36	1	B.	1	2	F.	R.	V.
213	25	V.	43	1	G.	D.	2	P.	R.	V.
214	22	V.	48	2	G.	1	2	N.	R.	
215	22	V.	36	1	B.	1	1	N.	R.	
216	21	V.	30	1	B.	1	1	N.	R.	
217	25	F. to P.	26	1	G.	1	2	N.	R.	
218	25	V.	37	1	G.	D.	1-2	P.	D.	V.
219	28	Face.	48	1	B.	D.	1-2	P.	R.	V.
220	24	V.	27	1	B.	1	2	N.	R.	
221	28	V.	46	1	G.	D.	1-2	P.	R.	V.
222	20	V.	25	1	B.	1	2	V.	R.	V.
223	26	V.	25	1	B.	D.	2	N.	R.	
224	23	V.	38	1	B.	D.	2	N.	R.	
225	27	V.	27	1	B.	D.	2	N.	R.	
226	23	V.	26	1	B.	1	1	N.	R.	
227	22	V.	30	1	G.	D.	2	P.	R.	V.
228	21	V.	26	1	G.	1	1	N.	R.	
229	19	V.	26	1	G.	1	1	N.	R.	
230	35	V.	38	2	B.	D.	2	P.	R.	V.
231	27	V.	30	1	B.	1	1	N.	R.	
232	23	V.	27	1	B.	1	1	N.	R.	
233	24	V.	48	1	B.	1	2	N.	R.	
234	28	V.	37	1	B.	1	1	N.	R.	
235	26	V.	26	3	B.	D.	2	N.	R.	
236	22	V.	30	1	G.	1	1	N.	R.	
237	27	V.	52	1	B.	D.	1-2	P.	R.	V.
238	21	V.	25	1	B.	1	2	N.	R.	
239	22	V.	35	1	B.	1	2	N.	R.	
240	32	V.	35	1	B.	1	2	N.	R.	
241	21	V.	42	1	B.	D.	1-2	N.	R.	
242	23	V.	32	1	G.	D.	2	N.	R.	
243	23	V.	58	1	G.	1	1	N.	R.	V.
244	26	V.	27	1	B.	D.	1	N.	R.	
245	34	V.	30	7	G.	1	2	N.	R.	
246	29	V.	50	1	G.	D.	1	P.	R.	V.
247	32	V.	26	1	B.	D.	2	N.	R.	
248	30	V.	35	1	G.	D. p.	2	P.	D.	V.
249	36	V.	26	5	B.	D.	2	P.	R.	V.
250	30	V.	30	1	G.	D.	2	V.	R.	V.
251	30	V.	50	1	B.	D.	1-2	P.	D.	V.
252	27	V.	26	1	G.	1	1	N.	R.	

Number of Case.	Age of Patient.	Presentation.	Hours in Labour.	No. of Pregnancy,	Sex of Child.	Alive or dead.	Delay in what Stage.	Mode of Delivery.	Result to Mother.	Observations.
253	23	v.	26	1	G.	1	1	N.	R.	
254	34	v.	32	1	B.	D.	2	V.	R.	V.
255	29	v.	25	1	G.	D.	1	N.	R.	
256	20	v.	30	1	B.	1	1	N.	R.	
257	20	Face.	22	1	G.	D.	2	V.	R.	V.
258	22	v.	70	1	G.	D. p.	1	N.	D.	V.
259	29	v.	28	1	G.	D. p.	2	P.	R.	V.

PRETERNATURAL LABOURS.

OF preternatural presentations we have not, except in cases of abortion, seen any other than those of the upper or lower extremities: the latter shall occupy our attention first. In these cases it may be fairly said that the danger, so far as it depends on the presentation, is exclusively confined to the child; and the degree of hazard is greatest when both feet present, and least when the breech presents; whilst the presentation of one foot (or a half-breech, as it is called) holds an intermediate place; this is one reason for bringing down, in turning cases, a single foot, and not both feet, as is sometimes recommended.

In presentations of the lower extremities we have very generally found that the foetal heart's sounds were heard most distinctly in the immediate vicinity of the umbilicus. This fact, which has been remarked by Hohl and Dr. Collins, sometimes proves a useful auxiliary diagnostic where doubt exists as to the nature of the presentation.

It sometimes happens in breech presentations that during the first, and early part of the second, stage, the presenting part will be the anterior superior spine of the ileum, and not the natis, as is usually the case. From the examiner not having been prepared for such an occurrence, we have known a good deal of perplexity to have been excited, and the case even mistaken for one of presentation of the upper extremity. The mode of practice pursued in the Hospital in breech and footling cases we shall briefly describe, confining ourselves to the more important points.

In the vast majority of cases the entire business is left to nature, until the child is expelled as far as the umbilicus,—or, if the breech have been the presenting part, until the feet (which are bent up on the abdomen of the child) shall have cleared the os externum. By attending to this salutary rule, sufficient time will generally be allowed for the full dilatation of the soft parts,

upon which mainly depends the facility of completing the delivery. The funis is then gently drawn down, and if pulsating strongly, or if putrid, we wait for the return of pain, in order that the shoulders may, if possible, have entered the brim of the pelvis before attempting to bring down the arms. In doing this we are always advised to disengage the arm next the pubis first, so as to leave more room for bringing down that one which lies next the perinæum, and with each to use much caution, lest the clavicle, which is most exposed to accident, be broken, or the limb otherwise injured. The exact mode in which the successive steps of this part of the operation are performed is as follows. We will suppose the face of the infant to be towards the sacrum, as is most commonly the case: with the left hand its body is depressed, in order to give more room for the right index and middle fingers to be passed along the child's back, and between it and the pubis up to the top of the shoulder, over which they turn, and rest on the clavicle. At this stage the greatest care is requisite in our mode of proceeding, particularly if the foetal arm be raised and lying beside the head. The finger is next moved along the humerus to the elbow-joint, or, at least, as near to it as possible, before the extraction of the limb is attempted. This is accomplished by drawing down the elbow, and at the same time sweeping the fore-arm gently across the face and chest.

In disengaging the opposite arm of the foetus, or the one next the sacrum, the situation of each hand is changed; with the right the child's body is elevated, whilst the left index-finger is used in the same way as was the right, but with more caution, on account of the perinæum, which is very much stretched during the liberation of this arm. In order to extricate the head, the fore-finger of the left hand is passed gently into the mouth and the chin depressed, whilst with the right hand, placed upon the back of the neck and shoulders, extractive force is used in a direction as much forward as possible, in order to withdraw the head in a line corresponding to the axis of the pelvic outlet.

So far the mode of proceeding is the same as that usually laid down by authors, but the ulterior steps vary somewhat, for instead of simply extracting the head with the right hand, the occiput is at the same time steadily pushed up by the right index-finger.

The importance of thus elevating the occiput, and the influence it has in facilitating the extraction of the head, did not escape the acute observation of Smellie, though by later writers it seems to have been almost wholly overlooked. In describing the management of these cases, he says: "When the operator, with his finger in the child's mouth, cannot pull down the forehead into the hollow of the sacrum, let him push the forefinger of his left hand betwixt the neck and os pubis, in order to raise the hind head upwards; which being done, the forehead will come down with less difficulty, especially if he pushes up and pulls down at the same time, or alternately."* The object of this manœuvre, together with that of depressing the chin, is to bring the head into the most favourable position for passing through the pelvis, by causing the occipitobregmatic to be the moving diameter, and thereby to obviate the occurrence of any delay at this critical time. It is especially necessary at this period of the delivery to direct the body of the infant as much forward as possible towards the abdomen of the mother; and unless the woman be properly placed in the bed (*i. e.*, unless she lie very much across it), with her hips projecting and thighs bent up, great difficulty will be experienced in rendering her the needful assistance.

In cases where the child is premature we do not interfere with the arms, but, on the contrary, allow them to remain up. The reason for thus deviating from the ordinary rule of practice is, to prevent the head being caught by the spasmodic contraction of the fibres of the os, a circumstance that is very apt to take place in these births, if the precaution we mention be neglected, and one that seldom fails to occasion very much inconvenience and loss of time, if not the death of the child. In one or two cases where this happened to us, the constriction caused by the os was round the lower part of the foetal head, in a line anteriorly above the nasal bones, and posteriorly below the occipital protuberance. The amount of resistance thus occasioned was really quite surprising, and much greater than we would have anticipated from such a cause.

Of all the breech and footling cases which have come under

* The reader will please to remember that Smellie supposes the woman to be lying on her back, with the accoucheur at her right side. It is necessary to know this in order to understand his directions.

our observation we should think that in about one-third the child entered the pelvis with its face looking towards the mother's abdomen; yet in no instance was it delivered face to pubis, and in very few was it requisite to give any, even the slightest, assistance to nature in making the turn whereby the back of the infant is brought round to correspond to the fore-part of the pelvis. We have stated in a former page the singular fact, that amongst premature children there is a very disproportionate number of preternatural presentations, especially of the lower extremities.

Two instances of breech presentation occurred, where delivery could not be accomplished without the use of the perforator and crotchet, in consequence of deformity of the pelvis.

In some few instances, where the labour had been rather prolonged, a finger was passed into the groin of the child, over the bend of the thigh, and by this means a degree of traction was made, sufficient to bring the labour to a speedy conclusion, and with perfect safety to the woman and her infant.

A case of breech presentation occurred to us very lately, where the head of a child was so much enlarged from hydrocephalus as to measure twenty-three inches in circumference. After the expulsion of the body and limbs, the head was, of course, stopped at the brim of the pelvis, and until this period the child was alive. The case seemed rather obscure, but the fact of her having previously given birth to four full-grown children, after easy labours, led us to think that the cause of delay did not arise from deficient capacity of the pelvis, whilst the existence of spina bifida in the cervical region suggested the great probability of the head being hydrocephalic, or the seat of some monstrous growth. When all hopes of saving the child had been dissipated, and that the pulsations of its heart had completely ceased, a perforator was pushed up by the mouth through the base of the skull, and the immediate discharge of an enormous quantity of serum confirmed the diagnosis. This fluid did not communicate with that in the vertebral sheath.

We mention this case just to shew what little influence gravity can have in disposing the head to present. It would rather favour the idea that the head presented from being the smaller end of the oval formed by the foetus *in utero*, on which account it

was better accommodated in the lower part of the uterine cavity than would be the more bulky breech and thighs of the child; whilst the reason for this arrangement being most usual towards the end of gestation, may be explained by the fact of the increased size of the child rendering such mutual adaptation more necessary at this time than previously.

It may be deemed worthy of a paragraph to mention an anomaly that we have on four or five occasions met with; namely, the absence of any discoverable presentation, or its extreme indistinctness, even until after the full dilatation of the os uteri. In these cases the patient was kept quiet in bed, and closely watched, so that in the event of the waters escaping, a satisfactory examination might be made without delay. Where the os had dilated to its utmost extent without any additional information having been gained, the membranes were artificially ruptured, and all doubts as to the nature of the presenting part at once removed. The only circumstances generally observed with these cases were, a great abundance of the liquor amnii, and an unusual thickness of the membranes.

The total number of Preternatural Presentations met with in the Hospital during the years 1842, 1843, and 1844, amount to *two hundred and twenty-seven*, 101 of which were breech, exclusive of those (39 in number) which occurred amongst the twin cases.

Of the 101 children who presented with the breech, 37 were dead born, 21 of which were putrid.

Twenty-four were premature, *eighteen* of which were still-born. *Thirteen* of the premature children were in a putrid condition at the time of birth. Of the *six* premature children born alive, *one* was at the sixth month, *three* at the seventh, and *two* at the eighth month. *Two* of the living premature children were boys, and *four* girls.

Nine of the premature still-born children were males. Of the entire number of dead-born children *twenty-three* were males.

Sixty-four children were born alive, of which *thirty-five* were boys.

Of the 101 breech cases *fifty-eight* were males and *forty-three* females.

Three of the mothers died; viz., Nos. 39, 71, and 93.

We shall now lay before the reader a brief statement of such particulars relating to the cases as seem worthy of notice. The number prefixed to each shews its place in the general table at the end of the present section.

No. 16.—This woman had a dash of hæmorrhage after the expulsion of the placenta.

No. 19.—This woman's child seemed to have died during the early part of the labour, as the cord was quite pulseless when it first came within reach, before the breech even was expelled.

No. 26.—This woman's former children were also expelled prematurely, and in a putrid state. On these three occasions parturition set in exactly a fortnight from the time she ceased to feel the foetal movements, and at which period there was every reason to believe the child had died. Of this curious law of the uterine economy, by which the residence of a dead foetus *in utero* seems limited to ten or fourteen days, we have spoken in a former page.

No. 33.—In this case the funis had nearly ceased to pulsate before the breech had cleared the vulva.

No. 37.—Fifth labour. There seems to have been some deformity of this woman's pelvis, as the difficulty of extracting the head was very great. Two of her former children also presented with the breech, and were dead born.

No. 39.—Had retention of the placenta, requiring the introduction of the hand, and died of phlebitis. Her case will be found recorded amongst those of retained placenta, No. 12.

No. 44.—All this woman's children were dead born, from what reason we are unable to say.

No. 48.—M. C., aged 32, first labour, admitted August 17, 1843. Labour did not set in until the morning of the 18th, and the membranes ruptured soon after, leaving the os uteri in a very rigid and undilated state. During the day she got the antimonial mixture. In the evening the pains became irregular, and the uterus tender on pressure. Blood was, therefore, taken from the arm, and afterwards she got a warm bath, followed by an opiate at bed-time. After some hours' sleep the pains returned, and the dilatation of the os proceeded most favourably and quickly. The foetal heart, which at an earlier period of the labour had been very distinct, was now wholly inaudible, and the breech

was pressed firmly into the pelvis. Several hours having elapsed without any proportionate advance being made, it was deemed advisable to give such assistance as would bring the labour to a speedy termination. The blunt hook was accordingly passed over the bend of the thigh, and the breech, with extreme difficulty, brought through the pelvis. There was considerable trouble in disengaging the arms, and the head had to be perforated before it could be withdrawn. The child was considerably advanced in decomposition. In about half an hour after delivery the placenta came off, and in a few minutes subsequent to this she got a severe rigor. An opiate was administered, and the same night mercurial ointment was rubbed into the axillæ and groins.

Second day. Rested well; pulse 98, and soft; some abdominal distress; lochial discharge good; bowels rather too free.

Mercurial frictions thrice daily.

Blue Pill and Opium every third hour.

Anodyne draught at night.

On the third day the breasts were becoming distended, and all uterine pain and tenderness had gone. At 10, A.M., she had a rigor, which was followed by a temporary acceleration of pulse. At this period the gums were slightly affected by the mercury.

Fourth day. At 8, A.M., she had another rigor, which came on after a motion from the bowels; pulse 96. Ptyalism is now established.

Seventh day. Diarrhœa has been the only unpleasant symptom since last report; pulse 104. She has been taking draughts containing two drops of prussic acid, and five of acet. opii three times a day. She sleeps well; there is no tenderness whatever of the abdomen, and there is an abundance of milk in the breasts. She had a slight rigor this day, shortly after an alvine evacuation. From this time she gradually began to amend, and was discharged from the Hospital perfectly well in the course of a few days.

The rigors which this woman had constitute the most interesting feature in her case. We have so generally regarded them as a symptom of phlebitis, unless when directly traceable to ephemeral fever or the lacteal secretion, that the recovery of this patient, without any other untoward symptom, and after having had four rigors, seemed at first somewhat inexplicable,

and calculated to overturn our practical deduction as to their diagnostic value. If in the present instance they had no connexion with uterine phlebitis, the causes of their production may have been these: the first rigor, which came on within an hour after delivery, was sympathetic with the uterine contraction and expulsion of the placenta; the second rigor (third day) obviously arose from the coming of the milk; and the third and fourth, each of which took place *durante diarrhœa*, and immediately after an alvine dejection, may have been induced by the previous operation of the bowels. This cause of rigor we have already noticed. On the other hand, considering the length and circumstances of her labour, there was every probability that the rigors depended on a slight, and, perhaps, modified attack of phlebitis: and some of the concurrent symptoms would appear to countenance this supposition.

No. 54.—Had a gush of hæmorrhage before the expulsion of the breech. The uterine action was so feeble during the delivery of the child that a dose of ergot was exhibited. Some clots of blood escaped from the uterus after the head was withdrawn. The pulsation had nearly ceased in the funis when it came within reach.

No. 62.—This child appeared to have died early in the labour, as there was no delay in its extraction, and the cord was devoid of all pulsation for some time before the breech was expelled.

No. 69.—Had some accidental hæmorrhage before delivery, which was checked by the rupture of the membranes.

No. 71.—This woman had accidental hæmorrhage, and the funis was prolapsed. Her case will be found detailed amongst those of "Hæmorrhage before Delivery," No. 23.

No. 93. *Gangrene of the Uterus*.—E. C., aged 27, a little woman, very lame of the left leg, which is much smaller and shorter than the other, apparently in consequence of former disease of the knee-joint, was admitted, in labour of her first child, October 30, 1844, in the afternoon. Her labour progressed slowly during the night, and the next morning (31st), at 11 o'clock, the os was fully dilated and the membranes unbroken, but no presentation could be felt. By Dr. Johnson's desire, the membranes were ruptured, when the breech was found presenting, consequently nothing further was

done at the time. At 2, P. M., no advance having been made, and the pains being feeble, an attempt was made to get a finger into the groin of the foetus, so as to make some extraction, but this proved unsuccessful, owing to the high position of the breech. A stimulating enema was then ordered. At half-past 3 o'clock the os was found closed to about one-third of its diameter, and the pains had quite ceased; she herself seemed disposed to sleep.

November 1st. Uterine action came on again during the night, but the pains have been feeble, and the intervals long. The os uteri is again dilated to its full extent, but the presenting part holds the same position, at the brim of the pelvis. As she had now been many hours without making the least progress, it was deemed necessary to render some assistance, so as to expedite her labour. The blunt hook, therefore, was had recourse to, and fixed in the groin. Upon introducing the hand to do this, it was clearly ascertained that the pelvis was of deficient capacity. It required much laborious exertion to draw the breech through the pelvis. This done, the arms were next brought down, though not without great difficulty. But the most arduous task still remained; namely, to get away the head, which was almost entirely in the uterus above the pelvic brim. Our sole object now was to conclude the labour as speedily, and with as little distress to the woman, as possible, any reluctance about mutilating the child being superfluous, as the foetus had been dead apparently for some hours. The ordinary mode of extracting the head having proved ineffectual, a crotchet was fixed on the lower jaw, but tore through it without effecting the desired end. The head was then perforated by thrusting the instrument up through the base of the skull, after which it was extracted. To have introduced the perforator in the place usually recommended (behind the ear) would have been utterly impossible. Before bringing down the chest it was necessary to eviscerate both it and the abdomen, and, subsequently, the arms had to be amputated at the shoulder-joint, in order to give more room for using the perforator and crotchet.

She was much exhausted by the operation, which lasted for an hour and a quarter, and the uterus did not contract well. In twenty minutes after delivery hæmorrhage came on, and continuing unchecked by the use of ordinary measures, it became neces-

sary to introduce the hand for the removal of the placenta. She had to be closely watched for some hours subsequent to this, as she was at times so weak as to require the administration of brandy and opium. The same evening the axilla, groin, and ham were rubbed in with mercurial ointment.

Second day. Has had no sound sleep; pulse 88. She is very weak, and apparently under the influence of the opium, being drowsy and lethargic, with contracted pupils; belly soft; uterus large, and a little tender; no desire for food; bowels not moved since delivery; has passed urine.

Mercurial inunction thrice daily.

Vesperé. Complains of lightness in her head; pulse 96; tongue rather white; thirsty; no abdominal pain, but the uterus is large, and tender on pressure; lochial discharge abundant.

Calomel. gr. ss.

Pil. Hydrarg. gr. ii.

Pulv. Ipecac. gr. i.

Opii gr. $\frac{1}{4}$. 3tiis horis.

Third day. Rested well; pulse 122; breath offensive; great thirst, and a desire for acid drinks; no appetite; tongue smooth and white; belly full; uterus tender; a great quantity of brown, watery lochia; perinæum is much lacerated, and the vagina sloughing. She got a dose of castor oil and turpentine this morning, which has not yet operated.

Repet. Pilul. et Ung. Hydrarg.

Vesperé. Her mind is wandering at times, and she seems very drowsy and heavy; had a rigor at 4 o'clock, and was delirious after it; bowels have been three times affected; pulse 130; tongue glazed and white; belly tympanitic; uterus very tender; some clots came away with the discharge; pupils are now natural.

Fot. Tereb. abdomini.

Fourth day. Rested well up to 3 o'clock, when she became delirious and uneasy, wanting to get out of bed, and appearing unconscious of where she was, or who her attendants were. She lies supine, with her eyes closed, and the respiration almost stertorous,

but when spoken to she looks up and gives a coherent reply ; pulse 138, and very weak ; respirations 44 ; breath has a cadaverous smell ; tongue and mouth quite dry ; face sallow and exsanguine, with a dark ring round the mouth ; bowels once moved ; belly very full, but soft and lax ; when the uterus is pressed she evinces uneasiness, but says it does not give pain ; lochia brown and fetid.

To have 1 oz. of wine every hour.

Opii. gr. ss.

Camphoræ gr. iii. 3tiis horis.

Vesperé. Bowels have been five times moved ; insatiable thirst ; pulse 166, and thready ; is constantly raving ; her nose is cold, and she complains of a numbness in her legs from the knees down, and also in the backs of her hands. She died at 10 o'clock, P. M.

Autopsy, twelve hours after death.—Some serous effusion, with flakes of lymph in the abdominal cavity ; slight deposition of lymph on the broad ligaments, which were unusually vascular ; *uterus* large ; on its anterior surface, low down, there was at one spot a thinness and apparent laceration of the serous membrane ; the condition of the part is best described by saying that it was cribriform. Upon cutting into the *uterus* some brown, sanious fluid issued from the divided veins ; the whole interior of the organ was in a state of gangrene, or slough ; the conjugate diameter of the pelvis was three inches and a half, and the oblique four inches.

So many untoward circumstances were combined in this case that recovery could scarcely have been expected. Thus, she was a primiparous woman ; her labour was very protracted ; the delivery was instrumental, and unavoidably long and painful ; the hand had to be introduced for the placenta ; and, lastly, there was considerable hæmorrhage.

No. 96.—After the arms had been brought down, the os uteri contracted on the head, and its extraction was thereby unavoidably delayed, our utmost efforts failing to remove it for some time.

Of the premature children *seven* were at the sixth month ; their respective numbers in the general table are, 41, 45, 53, 76, 91, 92, 100 : *ten* were at the seventh month ; viz., Nos. 12, 23, 30, 60, 61, 69, 77, 84, 85, 98 : and *seven* were expelled at the eighth month ; viz., Nos. 4, 5, 11, 26, 44, 46, 56.

TABLE I.

This shews the duration of labour in each of the 101 cases: thus, two women were half an hour ill; five, one hour; and so on.

Number of Women, . . .	2	5	11	8	9	15	8	4	6	2	6
Hours in Labour, . . .	$\frac{1}{2}$	1	2	3	4	5	6	7	8	9	10
Number of Women, . . .	3	9	3	3	1	1	1	2	1	1	
Hours in Labour, . . .	11	12	13	14	15	16	17	22	48	60	

TABLE II.

Shews whether it was the woman's first or subsequent pregnancy: thus, thirty-two cases were first labours; seventeen, second labours; and so on.

No. of Women,	32	17	14	10	4	4	7	4	3	3	1	1	1
No. of Pregnancy	1	2	3	4	5	6	7	8	9	10	11	12	15

TABLE III.

This is the "General Table" before alluded to. In the column indicating whether the child was born alive or dead, the figure 1 implies that it was alive at birth; the letter D., that it was dead; and the letters D. P., dead and putrid. Under the head of "Result to Mother," the letter R. stands for recovered; the letter D. for died. The letter V. in the column headed "Observations," is intended to shew that there was some point of interest about the case worthy of being noted, and which may be known by referring back to the corresponding number amongst the cases detailed.

Number of Case.	Age.	Number of Pregnancy	Hours ill.	Sex of Child.	Alive or dead.	Result to Mother.	Observations.
1	28	3	1	B.	l	R.	
2	38	5	2	B.	l	R.	
3	35	9	2	G.	l	R.	
4	23	2	4	B.	D.	R.	
5	25	4	12	G.	l	R.	
6	38	2	2	G.	l	R.	
7	30	7	10	B.	D.	R.	
8	32	2	1	G.	l	R.	
9	24	2	6	B.	l	R.	
10	42	6	$\frac{1}{2}$	B.	l	R.	
11	26	2	1	B.	D. p.	R.	
12	25	2	4	B.	l	R.	
13	20	1	13	B.	l	R.	
14	28	1	15	B.	l	R.	
15	30	5	22	G.	l	R.	
16	22	1	5	G.	l	R.	V.
17	24	1	8	B.	D. p.	R.	
18	21	2	5	G.	l	R.	
19	24	1	11	B.	D.	R.	V.
20	24	2	7	G.	l	R.	
21	30	4	12	B.	l	R.	
22	28	4	5	B.	l	R.	
23	35	8	2	G.	l	R.	
24	30	2	9	B.	l	R.	
25	28	7	7	B.	D.	R.	
26	24	3	2	B.	D. p.	R.	V.
27	23	1	14	G.	l	R.	
28	23	1	6	B.	l	R.	
29	36	4	2	G.	l	R.	
30	26	2	3	B.	D. p.	R.	
31	22	1	5	G.	l	R.	
32	23	1	5	B.	l	R.	
33	35	7	12	B.	D.	R.	V.
34	25	1	12	B.	l	R.	
35	21	1	2	G.	l	R.	
36	23	2	8	B.	l	R.	
37	28	5	8	B.	D.	R.	V.
38	30	3	5	G.	l	R.	
39	30	2	8	B.	D. p.	D.	V.
40	39	10	8	G.	l	R.	
41	32	4	1	G.	D. p.	R.	
42	34	6	10	B.	l	R.	
43	33	4	3	B.	l	R.	
44	25	5	5	G.	D.	R.	V.
45	30	3	3	B.	D.	R.	
46	28	3	3	G.	D. p.	R.	

Number of Case.	Age.	Number of Pregnancy	Hours ill.	Sex of Child.	Alive or dead.	Result to Mother.	Observations.
47	23	1	11	G.	l	R.	
48	32	1	60	B.	D. p.	R.	V.
49	33	10	5	B.	l	R.	
50	30	7	6	B.	l	R.	
51	27	1	3	B.	l	R.	
52	22	2	5	B.	l	R.	
53	28	3	4	B.	D. p.	R.	
54	30	8	6	B.	D.	R.	V.
55	35	11	13	G.	l	R.	
56	50	9	3	B.	l	R.	
57	27	1	$\frac{1}{2}$	G.	D. p.	R.	
58	24	1	17	B.	l	R.	
59	22	1	4	B.	l	R.	
60	25	1	12	G.	D. p.	R.	
61	25	3	4	G.	D. p.	R.	
62	21	1	5	B.	D.	R.	V.
63	20	1	10	B.	l	R.	
64	25	2	6	G.	l	R.	
65	29	3	5	G.	l	R.	
66	22	3	1	B.	l	R.	
67	35	4	2	G.	l	R.	
68	30	3	2	B.	l	R.	
69	38	7	12	G.	D.	R.	V.
70	23	2	4	G.	l	R.	
71	34	12	16	B.	D. p.	D.	V.
72	26	4	4	G.	l	R.	
73	26	1	10	G.	D.	R.	
74	36	10	2	G.	l	R.	
75	33	8	3	G.	l	R.	
76	28	4	4	G.	D. p.	R.	
77	30	3	12	G.	D. p.	R.	
78	24	1	11	B.	l	R.	
79	22	1	3	B.	D. p.	R.	
80	40	15	4	B.	l	R.	
81	40	1	6	B.	D.	R.	
82	25	8	5	G.	l	R.	
83	26	3	12	B.	l	R.	
84	22	1	10	G.	l	R.	
85	19	1	10	G.	l	R.	
86	24	1	6	B.	l	R.	
87	36	4	22	B.	l	R.	
88	31	6	6	G.	l	R.	
89	22	1	13	B.	l	R.	
90	28	1	9	B.	l	R.	
91	26	3	8	G.	D. p.	R.	
92	30	7	7	G.	l	R.	

Number of Case.	Age.	Number of Pregnancy	Hours ill.	Sex of Child.	Alive or dead.	Result to Mother	Observations.
93	27	1	48	G.	D.	D.	V.
94	34	9	7	G.	D.	R.	
95	26	7	14	B.	D. p.	R.	
96	25	2	5	B.	D.	R.	V.
97	38	6	5	B.	l	R.	
98	21	1	14	B.	D. p.	R.	
99	19	2	5	G.	D. p.	R.	
100	22	1	12	B.	D. p.	R.	
101	27	3	2	B.	l	R.	

We shall now lay before our readers all the particulars relating to the Footling Cases. They amount to *thirty-eight*, exclusive of the twins, which presented with the feet, and which were twenty-three in number. Of the *thirty-eight* children, eighteen were dead born, of which *thirteen* were putrid when expelled from the uterus. *Fourteen* of the *thirty-eight* were premature births, of which fourteen *one* was born alive, *two* were born dead, and *eleven* putrid. *Six* of the premature children were boys. Of the twenty children live born, *six* were boys; and of the entire number *thirteen* were boys and *twenty-five* were girls.

One woman died, viz., No. 37.

The numbers prefixed to the following statements are to serve for reference to the general table at the end of the present section.

No. 1. This child was unusually large, weighing ten pounds and a half.

No. 3. In this case there was a prolapse of the funis.

No. 11. This woman came in with accidental hæmorrhage at the seventh month, for which the membranes were artificially ruptured.

No. 14. Prolapse of the funis. The number of this case in the table of funis presentations is 15.

No. 18. This woman met with a fright some weeks before her admission.

No. 22. This was a syphilitic premature fœtus, and, according to the mother's account, had ceased to live exactly a

fortnight before its expulsion from the uterus. The history she gave of herself was the following, and there is no reason to doubt its correctness. Her two former children were born alive and healthy, at the full time. About seven or eight months ago her husband came out of hospital, apparently cured of a venereal affection, on account of which he had entered it. Soon after his return home she proved in the family way. About the same time a greenish discharge took place from the vagina, accompanied with a papular cutaneous eruption, exactly the same as her husband had upon going into hospital. She quickened at the usual period, and the child continued alive and vigorous up to a fortnight before labour.

No. 27. Great difficulty in extricating the head from the pelvis. She became maniacal on the seventh day, and was discharged on the seventeenth. Her case is an interesting one, and will be found detailed at length amongst the natural labours, No. XXIX.

No. 36. Premature. She got a fall some time before admission.

No. 37. S. R., aged 20, was confined December 5, 1844, of a putrid male child, which presented with the foot. She was in the eighth month of pregnancy, and her labour lasted only about one hour. The placenta came off favourably, but was followed by some slight hæmorrhage. She was delivered late in the afternoon, and on the following evening her pulse was found to be 120, and she was very restless; bowels not moved since delivery; no pain or tenderness in any part of the abdomen; tongue healthy; no headach or sign of milk.

Calomel, gr. ii.

Pulv. Jacobi, gr. iii. h. s.

To have a dose of Castor Oil in the morning.

Third day. Rested tolerably well; pulse 125; some nausea; tongue white; no complaint of pain in the abdomen, but there is a deep-seated tenderness on pressure over the fundus uteri; lochial discharge natural; no appearance of milk.

Turpentine stupe to the belly, and to be followed by a bran poultice.

In the evening her pulse was still more rapid, and she had vomiting.

Fourth day. Rested indifferently ; pulse 98 ; tongue white ; no desire for food, in fact she almost loaths the sight of it ; nausea, and occasional vomiting ; uterus large and tender ; lochia scanty and pale.

Effervescing mixture.

Vesperé. She seems quite unconcerned about her condition, and says she feels perfectly well. Pulse 125, and very soft ; tongue furred and yellowish ; bowels twice moved in the day ; had frequent vomiting ; thirst ; no uneasiness anywhere. She had a rigor at 3, P. M., and another at 9 o'clock.

Sinapism to epigastrium.

Opium and Calomel, of each gr. i.

Fifth day. Had no sleep ; pulse 130 ; respirations 32 ; had some nausea in the night, and now complains of slight headach ; tongue furred and dry ; thirst ; lochia and milk absent.

Vesperé. Pulse 120 ; had a transient rigor at 2, P. M. ; seems restless and fidgety, and her manner has much of childish levity ; indeed it has been so all along : bowels once moved this day.

Pil. Hydrarg. et

Pulv. Doveri, āā gr. iv.

Sixth day. Slept better last night than any previously ; had a short rigor at 2 o'clock this morning, which was followed by nausea and vomiting ; pulse 120 ; looks rather flushed ; mouth and tongue dry, the latter furred ; thirst ; bowels three times disturbed in the night ; no abdominal distress. There is some pain in the right wrist, and a good deal in the left shoulder, aggravated upon motion of the limb.

Hirud. xii. to left shoulder.

Mercurial inunction every fourth hour.

Vesperé. Had a slight rigor at 2 o'clock, and another at 6, P. M. ; pulse 126 ; has a linseed poultice on the shoulder, which she says is better ; no appetite whatever ; one liquid motion from the bowels at noon.

Pulv. Digitalis, gr. i. 4tis horis.

Seventh day. Slept tolerably well; shoulder more painful and extremely tender; no other change in her symptoms. At 10 o'clock she got a rigor, which, like the preceding ones, was very short.

Ung. Hydrarg. ut antea.

Pil. Hydrarg., et

Pulv. Digitalis, āā gr. i. in pil., 4tis horis.

Vesperé. Pulse 108; shoulder and wrist better; slept for some hours after a warm bath that she got at 2 o'clock.

Repet. Ung. Hyd. et Pilul.

To get some weak wine and water.

On the eighth day her strength was more reduced, and she was complaining of shooting pains through the abdomen, which was full and tympanitic. On this day, also, she had two rigors, and ejected nearly everything taken by the mouth. On the ninth day all these symptoms were aggravated, and she was considerably weaker. She died at midnight, having been perfectly sensible and collected up to the last moment of her existence. She could not be persuaded of her near approaching end till a few hours before death.

Autopsy. Extensive peritonitis, with much effusion of serum and lymph. *Uterus* small and well contracted, and its lining membrane healthy, but pus existed in the sinuses in considerable quantity. *Left shoulder-joint* contained pus, but there was no erosion of the cartilages.

The young female who was the subject of this case was a native of England, and in manner as well as in personal appearance seemed much above her apparent rank of life. From what could be gleaned of her history, it appeared that she had been seduced, and that for the last few months her mode of life had been most profligate and irregular. The combined operation of these moral and physical causes must have powerfully tended to render her constitution highly susceptible of the influence of any puerperal disease.

Any doubts that had previously existed as to the nature of her illness were wholly removed on the sixth day, by the appearance of arthritis in the left shoulder. Her almost complete immunity from any local pain or distress up to this time was very

singular, and deserves particular attention, as shewing the extremely insidious and latent manner in which uterine phlebitis occasionally becomes developed. The peritonitis came on, in all probability, only two or three days before her decease.

The above are the only cases whose histories contained anything worthy of being recorded.

It has been already stated that *fourteen* of the thirty-eight children were premature, viz., *two* at the sixth month, Nos. 10 and 24, in the general table; *nine* at the seventh month, Nos. 4, 6, 8, 11, 14, 18, 22, 33, 37; and *three* at the eighth month, Nos. 5, 25, 36.

TABLE I.

This exhibits the duration of labour in each of the thirty-eight cases. Thus, three women were one hour ill; four, two hours; and so on:—

Number of Women, . .	3	4	7	2	5	1	3	1
Hours in Labour.	1	2	3	4	5	6	7	8
Number of Women, . .	1	4	2	2	1	1	1	
Hours in Labour,	9	10	11	12	15	18	19	

TABLE II.

Shews whether it was the woman's first or subsequent pregnancy; thus, fourteen were primiparous women; twelve were second labours; and so on:—

Number of Women, . .	14	12	4	2	3	1	1	1
Number of Pregnancy, .	1	2	3	4	6	7	8	9

TABLE III.

This is the "General Table," of which mention has already been made. Its construction and abbreviations are precisely the same

as the general table of breech cases, so that the same explanation may serve for both:—

Number of Cases.	Age.	Number of Pregnancy	Hours ill.	Sex of Child.	Alive or dead.	Result to Mother.	Observations.
1	23	1	10	G.	l	R.	V.
2	33	3	2	B.	l	R.	
3	29	6	2	G.	l	R.	V.
4	22	2	8	G.	D. p.	R.	
5	23	2	15	G.	D.	R.	
6	21	2	4	B.	D. p.	R.	
7	30	3	5	B.	l	R.	
8	24	2	5	B.	D. p.	R.	
9	22	2	10	G.	l	R.	
10	28	1	3	G.	D. p.	R.	
11	22	1	1	G.	D. p.	R.	V.
12	22	1	12	G.	D.	R.	
13	30	1	7	G.	l	R.	
14	30	2	2	G.	D.	R.	V.
15	22	2	4	G.	l	R.	
16	24	6	3	B.	l	R.	
17	22	2	3	G.	D. p.	R.	
18	34	2	18	B.	D. p.	R.	V.
19	27	1	3	G.	l	R.	
20	38	2	5	G.	D. p.	R.	
21	16	1	10	G.	l	R.	
22	26	3	5	G.	D. p.	R.	V.
23	24	1	7	B.	D.	R.	
24	37	8	9	G.	D. p.	R.	
25	21	1	6	B.	l	R.	
26	39	9	3	G.	l	R.	
27	20	1	19	B.	D.	R.	V.
28	22	1	12	G.	l	R.	
29	27	2	5	B.	l	R.	
30	30	7	10	B.	l	R.	
31	34	3	1	G.	l	R.	
32	30	4	11	G.	l	R.	
33	23	4	11	G.	D. p.	R.	
34	22	1	7	G.	l	R.	
35	32	2	2	G.	l	R.	
36	21	1	1	B.	D. p.	R.	V.
37	20	1	1	B.	D. p.	D.	V.
38	32	6	3	G.	l	R.	

The second order of preternatural labours, comprises those cases in which some part of the shoulder or arm presents. These are

of much more infrequent occurrence than presentations of the pelvic extremity; and fortunately so, as their management often requires the exercise of a sound judgment and great perseverance. As we have not much to say upon this subject beyond what is contained in most of the recent treatises upon midwifery, our remarks shall be few and brief. We would, with Dr. Collins and Dr. Joseph Clarke, deprecate the practice of turning in cases of great difficulty, and where there exists unequivocal evidence of the child's death, as the attempt, under these circumstances, would expose the patient to more dangerous consequences than the operation of evisceration and delivery by the crotchet. This operation is, no doubt, a very troublesome piece of business, requiring, in most instances, upwards of an hour for its completion; but still, with care and patience, we may reasonably calculate upon a favourable result. After evacuating the contents of the thorax and abdomen, the great point is to fix the crotchet on the pelvis, and thus draw down the breech through the os externum, thereby imitating, to a certain extent, the mode by which unaided nature sometimes effects delivery under similar circumstances.

Whenever a hand is found presenting at an early period of labour, the examiner should be careful to ascertain whether the head be above it or not, as this obviously would make an essential difference in the case.

We have repeatedly seen great benefit derived from the use of tartar emetic in arm cases, from its relaxing effect upon the os uteri, and also in those where it was an object to moderate or subdue uterine action, preparatory to the introduction of the hand for the purpose of turning. It was generally administered in one-sixth or quarter-grain doses, repeated at intervals varying in length according to the urgency of the case, until it produced the desired effect, or brought on full vomiting. Indeed it is a very usual practice, in all cases of arm presentation, to exhibit small doses of tartar emetic solution before the os is fully dilated, with a view to prevent the accession of strong uterine action, and to favour the relaxation of the soft parts. This plan is also followed in cases where the presenting part is not clearly ascertained; the antimonial solution being given in small quantities, until the os be fully dilated, or the membranes ruptured, after

which its further administration is regulated by circumstances. In the cases of arm presentation where we have successfully practised auscultation, the foetal heart was generally detected towards the lateral region of the uterus, and somewhat above the position that it occupies in ordinary vertex cases.

Before commencing the operation of turning, it is a matter of great importance to know exactly the position of the foetus *in utero*. Where the membranes are entire, or but recently broken, and therefore no difficulty likely to be met with, ignorance upon this point does not, perhaps, so much signify; but, under opposite conditions, the absence of such knowledge would materially add to the existing difficulties. In performing the operation, we have always employed the right hand, and it was not thought necessary to bring down both feet; on the contrary, it has been considered more desirable to take hold of one only, and so to deliver the foetus.* On many occasions, after the hand had entered the uterus, it was found that the knee could be reached with less difficulty than the foot, and in these cases it was not thought requisite to search for the latter, but the knee itself was grasped, and the version safely and expeditiously accomplished by its means. Dr. Breen, of this city, published an essay in the fourteenth volume of the Edinburgh Medical Journal, the object of which was to shew that turning could in general be more easily effected by seizing the knees instead of the feet, as is usually recommended. From what has come under our observation, however, we would be more inclined to advise the adoption of the practice above stated, namely, to bring down one leg, taking hold of either the knee or foot, whichever should happen to be the most convenient and accessible.† The advantages which recommend this mode of turning, and which have led to its adoption here, as the usual practice, are the following:—

* We have seen it advised by some old author, to select the moment of a pain for introducing the hand into the vagina. The recommendation has some show of reason in it, for by following it we can practise a justifiable piece of deception on the patient and her friends, who will then impute the pain caused by this step of the operation to the natural throes of parturition, and not to our manipulation.

† A similar mode of practice is recommended by Mr. Radford, in a paper contained in the Edinburgh Medical Journal, vol. xxxvii.

1st. It does not require that the hand of the operator should be pushed so far into the uterine cavity as if both feet were sought for, inasmuch as one knee or foot is almost always reached before the other, and, this done, it is unnecessary to force the passage of the hand any further. We freely admit that in turning before, or immediately after, the rupture of the membranes, both feet can be seized as easily as one; but in cases where the liquor amnii has drained off, and the uterus has firmly contracted on the child, matters are totally different, and it then becomes an object of great consequence to diminish, in the smallest degree, the distance to which the hand has to be thrust up. For the truth of this we would appeal to any one who has had to turn under circumstances such as we now describe.

2nd. Attention to this rule (of delivering by one foot or knee) will preclude the possibility of bringing down the feet of different children, should the case be one of twins. Doubtless, the chances of such an accident happening are very small; nevertheless, its occurrence is possible, and, were it to take place, would put the practitioner into a most embarrassing position, and, in all probability, prove fatal to the children.

3rd. When the child is delivered in the way we are describing, it is plain that it comes through the pelvis as a half-breech, which position, as was already remarked, is more conducive to its safety than if both feet had come together. It is to this circumstance, in a great measure, that we attribute the low mortality which appears amongst the children in our version cases; and partly, also, to the particular manner of extricating the head, before explained in the observations upon breech and footling cases.

Before taking leave of this part of our subject we would wish to make a few observations respecting the "spontaneous evolution of the fœtus." This process, as described by Denman, it has never fallen to our lot to witness, though we have seen five or six instances in which children presenting with the arm were born by the unaided efforts of nature. All these children were premature, —about the seventh month; all of them were dead, and most of them putrid. In two or three examples the head and arm remained quite stationary, and unchanged in their position, till after the birth of the breech and legs, thus agreeing exactly with Dr. J. C.

Douglas's explanation of this process. In each of the other cases, however, the foetus was expelled doubled on itself, the side of the trunk first clearing the os externum, and the head and legs following together immediately after; but in none of them did the arm or shoulder at all recede from the commencement to the termination of the process, so far confirming Dr. Douglas's views as to the manner in which the "spontaneous expulsion," as he calls it, takes place.

But we believe that in this, as in most other matters of controversy, truth lies between the disputants, and that Denman's explanation is true of those instances of spontaneous evolution occurring at the full period of gestation; whilst in the more numerous class of cases which occur amongst premature births, the process is somewhat different, and corresponds nearly, if not entirely, with the explanation given by our respected friend, Dr. J. C. Douglas.

Twenty-six presentations of the Shoulder or Arm were met with in the Hospital during the period of our Report. This includes those cases occurring amongst the twin-children, and which were *six* in number.

In *nineteen* instances version was performed, and *fourteen* of these children were born alive. In *four* cases delivery was effected by evisceration. Of the twenty-six children, *twelve* were dead-born, *six* of which were putrid. *Eight* of the children were premature. *Thirteen* were male children, and the same number female. In *three* cases, on admission into the Hospital the shoulder was low in the pelvis.

Two of the women died; viz., Nos. 2 and 19 in the general table at the end of the chapter.

We shall now detail any particulars worthy of notice relating to the several cases. The numbers have reference to the general table.

No. 1.—This woman was about seven months pregnant, and the funis presented along with the arm. The membranes ruptured early. When the os uteri was fully dilated the pains were very violent; and continuing so after the exhibition of a strong opiate, it was not considered prudent to attempt turning, particularly as the death of the child was a matter of certainty. Delivery

was, therefore, accomplished by eviscerating the chest, and bringing down the breech. This patient made a good recovery.

No. 2. A.L., aged 21, first labour, admitted February 21, 1842. This was a twin case. The first child presented with the feet, and after its birth, as there was some doubt as to the presentation of the second, the membranes were ruptured: an arm was felt presenting, upon which the hand was introduced, and turning effected without delay. The child, a male, was born alive. The placenta came off very soon, and some hæmorrhage followed its expulsion. On the day following delivery the pulse was quiet, but there was some slight tenderness of the uterus, for which she was put on the use of blue pill, with Dover's Powder, and had on a turpentine stupe.

Third day. Pulse 132; tenderness of uterus increased. She was now bled, and the mercurial treatment was actively adopted.

Fourth day. Pulse 140; diarrhœa has come on, so that the internal exhibition of mercury can be no longer continued; uterine pain has increased.

Bleeding to be repeated.

Diarrhœa was the prominent symptom from this date until her death, which took place on the twelfth day.

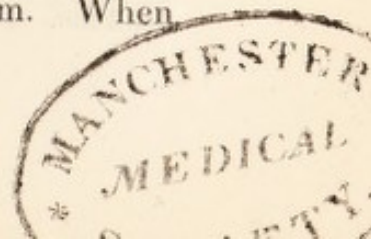
Autopsy.—Some slight effusion of turbid serum into abdominal cavity. *Uterus* large; no marks of external inflammation; puriform matter exuded from incisions made into its substance at the insertion of the broad ligaments.

No. 3.—This was a twin case; the first child presented naturally, and the second with the arm. There was no difficulty in the operation of version.

No. 6.—The funis presented along with the arm in this instance, and although it continued pulsating after birth, yet the child could not be restored to animation.

No. 7.—Turning was easily effected in this case, but there was great difficulty in extracting the head, owing, apparently, to the small size of the pelvis.

No. 8.—Was brought to the Hospital October 16th, 1842, from the country, having been in labour, under the care of a midwife, for many hours. Before leaving home a medical practitioner had administered to her sixty drops of laudanum. When



admitted, the left arm of the foetus was protruding from the vagina, the shoulder was firmly wedged in the pelvis, and there was every reason for believing the child to be dead, as the foetal heart was nowhere audible, and the arm shewed indications of incipient putrefaction. Evisceration was, therefore, performed, and the child delivered by bringing down the breech with the crotchet. Some hæmorrhage followed the expulsion of the after-birth. Her convalescence was most rapid, and she was able to leave the Hospital on the eighth day.

No. 9.—A twin case. The first child presented with the breech, and the second with the arm.

No. 10.—Hand and funis presented. A foot was reached very low down, and turning was effected without introducing the hand into the uterine cavity at all.

No. 11.—A twin case, precisely the same in all essential particulars as No 9.

No. 12.—This woman was only eight months advanced in pregnancy, and the child presented with the arm and funis. The pains forced down the side of the child, and ultimately expelled the breech, which was followed by the birth of the head, in the same manner as if the case had primarily been one of breech presentation. During this process the position of the arm and shoulder remained unchanged. In its essential features this case may be regarded as an example of the "spontaneous expulsion" of the foetus described many years ago by Dr. Douglas* (and to which allusion has already been made), for the evolution was effected in the true pelvis, and neither the shoulder nor arm receded from its original position.

No. 13.—This woman was only at the seventh month of pregnancy, and delivery was accomplished in precisely the same manner as in the preceding case.

No. 15.—This patient had twins. The first child was a boy, and presented naturally; the second was a girl, and presented with the arm.

No. 16.—Also a twin case, but it was the first child which presented with the arm. It had been dead for some time.

* An Explanation of the real Process of "Spontaneous Evolution of the Foetus." Third edit. Dublin, 1844.

No. 18.—The membranes ruptured, and the liquor amnii had been discharged two days before labour set in. When she came to the Hospital the shoulder was low in the pelvis, but there was no uterine action, so that turning was accomplished without any difficulty.

No. 19.—M. M. admitted in labour of her first child, November 30, 1843, at 9, A. M. The os uteri at this time was about the size of a crown, and the membranes unbroken. No presentation could be felt, nor could the foetal heart be anywhere detected; this agreed with her own statement, that the motions of the child had ceased for some days. She slept during the greater part of the night; but in the morning of December 1st the pains came on again, and the membranes ruptured, when the elbow and shoulder were found presenting. The pains continued frequent during the day, and at 9 o'clock in the evening the os was fully dilated. She was weak and exhausted; the pulse was rapid; the shoulder pressed low into the pelvis; and the uterus was tightly contracted round the child. The chest of the child was now perforated, and a full anodyne administered. In the morning (10th December), the abdomen was eviscerated, and the breech drawn down with the crotchet. The child was in a putrid condition. On the second day she got the usual symptoms of phlebitis, under which she sunk on the seventh day.

Autopsy.—No peritonitis. A very small quantity of turbid serum in the abdominal cavity. *Uterus* large; its serous coat free from inflammation. Upon cutting into it pus exuded from the divided veins, and its internal surface was gangrenous, particularly at the cervix. The *vagina* was very dark, though not actually in a state of slough.

No. 22.—In this case the foetus was at the seventh month, and in a highly putrid condition. The arm was the part which first presented, but the child was subsequently expelled doubled on itself, the lower ribs being the part which first appeared through the os externum, and the head and feet coming away together.

No. 23.—Had been many hours in labour before admission, and the shoulder was wedged in the pelvis. As the arm exhibited unequivocal marks of putrefaction, she was delivered with

the perforator and crotchet, by eviscerating the chest, and bringing down the breech. She recovered in the most favourable manner.

No. 25.—The funis came down with the arm in this case, and the pulsation in it was extremely feeble at the time the operation of turning was undertaken.

No. 26.—This patient was admitted August 20, 1844. She had been four hours in labour before coming to the Hospital, and on examination the os uteri was found dilated to about the size of a penny, and the membranes were unbroken, but the presenting part could not be ascertained. The foetal heart was heard on the left side, high up, nearly on a level with the umbilicus. The pains at this time were strong and frequent, so she was ordered a quarter of a grain of tartar emetic in solution, with a few drops of laudanum, every half-hour. This acted well in moderating the pains, and hastening the dilatation of the os uteri. In less than two hours the os was fully opened (the membranes being still entire), and it was discovered that either the arm or leg presented. The hand was therefore passed up, and the membranes ruptured, when it was ascertained that the left arm of the child was presenting. The feet lay anteriorly, so that one of them was seized and brought down with the greatest ease. The child was strong and vigorous.

It has been already stated, that *eight* of the children were premature: their numbers in the general table are the following, viz., at the seventh month, Nos. 1, 13, 14, 18, 21, and 22; at the eighth month, Nos. 4 and 12.

Six of the twenty-six children were twins, viz., Nos. 2, 3, 9, 11, 15, and 16.

In *five* instances the funis descended along with the arm. Their numbers in the general table are 1, 6, 10, 12, and 25.

TABLE I.

This shews the length of the labour in all the cases respectively: thus, two women were one hour ill; three were two hours, and so on:—

Number of Women, .	2	3	2	2	2	2	1	3	1
Hours in Labour, . .	1	2	3	4	5	6	7	8	9
Number of Women, .	1	1	1	1	1	1	1	1	
Hours in Labour, . .	10	13	14	20	26	33	39	47	

TABLE II.

Shews whether it was the woman's first or subsequent pregnancy: thus, seven were first labours; five second labours; and so on:—

Number of Women,	7	5	5	4	1	2	2
Number of Pregnancy,	1	2	3	4	5	6	8

TABLE III.

This is the "General Table," to which allusion has already been made. In the column indicating whether the child was born alive or dead, the figure 1 implies that it was born alive; the letter D. that it was dead; and the letters D. P. that it was not only dead but also putrid. Under the head of "Mode of Delivery," the letter P. stands for perforation; the letter T. for turning; and the letter N. for natural, meaning thereby that the foetus was expelled solely by the natural efforts. In the column headed "Result to Mother," the letter R. is put for "recovered," and the letter D. for "died." The letter V., in the last column, is intended

to shew, that some history of the case has been given, which may be at once discovered by referring back to the corresponding number amongst the recorded cases.

No. of Case.	Age of Patient.	No. of Preg-nancy.	Hours ill.	Sex of Child.	Alive or dead.	Mode of Delivery.	Result to Mother.	Observations.
1	30	2	6	B.	D.	P.	R.	V.
2	21	1	26	B.	l	T.	D.	V.
3	40	8	3	G.	l	T.	R.	V.
4	20	1	8	G.	D.	T.	R.	
5	24	3	2	B.	l	T.	R.	
6	35	4	4	B.	l	T.	R.	V.
7	30	6	5	B.	D.	T.	R.	V.
8	29	3	39	B.	D.	P.	R.	V.
9	27	2	3	G.	l	T.	R.	V.
10	22	1	8	B.	D. p.	T.	R.	V.
11	36	4	1	B.	l	T.	R.	V.
12	28	4	5	G.	D.	N.	R.	V.
13	30	3	2	G.	D. p.	N.	R.	V.
14	33	4	4	B.	l	T.	R.	
15	26	2	7	G.	l	T.	R.	V.
16	27	1	20	G.	D. p.	T.	R.	V.
17	28	2	6	B.	l	T.	R.	
18	35	8	9	G.	l	T.	R.	V.
19	30	1	47	G.	D. p.	P.	D.	V.
20	29	2	14	B.	l	T.	R.	
21	30	3	2	B.	l	T.	R.	
22	26	1	13	G.	D. p.	N.	R.	V.
23	38	6	33	G.	D. p.	P.	R.	V.
24	35	5	1	G.	l	T.	R.	
25	21	1	8	B.	D.	T.	R.	V.
26	29	3	10	G.	l	T.	R.	V.

COMPLEX LABOURS.

UNDER this head we purpose to speak of hæmorrhage, convulsions, ruptures of the uterus, plurality of children, and funis presentations.

It does not come within the scope of the present work to treat of that form of hæmorrhage occurring within the first six months of gestation, and connected with abortion. We must, therefore, confine our remarks to the hæmorrhages of the last three months of pregnancy, and those which take place after delivery.

Accidental and Unavoidable Hæmorrhage.—It is of the utmost importance to have clearly before one's mind the nature and distinguishing characteristics of these two forms of flooding; for without such knowledge no man can be considered fit to undertake the management of a case of hæmorrhage in the latter months of pregnancy. The essential difference between accidental and unavoidable hæmorrhage, depends entirely upon the situation of the placental attachment to the uterus; all those cases where the effusion of blood arises from the implantation or encroachment of the placenta upon the os uteri, very properly receiving the epithet of inevitable or unavoidable; whereas, if the placenta adhere to any other part of the uterus, the case is one of accidental hæmorrhage. But, admirable though this distinction is, it does not in every case point out a corresponding difference in practice. It has not always been found a matter of facility to diagnose between these two forms in the commencement of an attack, when the os uteri was high up and undilated, and no pains present. A circumstance which tends still further to increase the difficulty is, that accidental hæmorrhage may, and frequently does take place without any assignable external injury or shock of any kind, either moral or physical; indeed on this point Dr. Lee expressly says, that "it arises much more frequently from internal causes, of which morbid states of the placenta, and twisting of the

umbilical cord once or oftener around the neck of the child, are the most common and obvious.”*

Under these embarrassing circumstances, we gladly avail ourselves of every source of information at all likely to throw any additional light upon the case. We have sometimes, on doubtful occasions of this kind, been able to come to a positive diagnosis by the use of the stethoscope (as noticed by Nægèlé), ascertaining, through its means, the site of the placenta. This decisive result, however, is not always to be expected, for the placental souffle may not be heard at all, though this is extremely rare; or it may be heard in such a situation as would still leave it uncertain whether the placenta was actually presenting or not: nevertheless, in all doubtful instances, careful auricular examination should never be omitted. As characteristic of unavoidable hæmorrhage, M. Gendrin has mentioned two signs which appear deserving of some attention.† One of these is a pulsation at the os uteri, not synchronous with the maternal pulse, but with the rapid beats of the fœtal heart. This sign certainly seems easy of discovery, and if constantly present would prove a valuable and simple diagnostic. In one case of nearly complete presentation of the placenta, we sought carefully for it, but unsuccessfully; and in none of all the cases of placenta prævia that have come under our observation did we remark anything of the kind, but in these, certainly, our attention was not specially directed, with a view to its detection. The second mark adverted to by M. Gendrin, is the impossibility of producing ballottement; in other words, we are prevented from feeling the presenting part of the child through the uterine wall (when examining *per vaginam*), owing to the interposition of a soft, cushiony substance, the placenta.‡ On several occasions, when the placenta was super-

* Lectures, p. 380.

† British and Foreign Medical Review, July, 1840.

‡ The late Dr. Gooch was once consulted about a case of doubtful pregnancy, and he came to the conclusion that the woman was pregnant. “But,” he adds, “though I examined her in the upright posture, I could not feel the child’s displacement and subsequent fall.” The opinion he gave was, “that she was pregnant and that the child was dead, but I could not explain my not finding the fetus moveable.” The result of this case explained itself. About seven weeks afterwards, she was delivered of a dead child, the placenta being at-

imposed, we have very distinctly recognised the presence of this sign. To be able to do so, however, requires considerable experience and tactile sensibility on the part of the examiner; and it is only when that portion of the uterus immediately anterior to the os is covered by placenta, that the sensation will be discoverable. For these reasons it is obvious that only partial reliance can be placed upon this sign, and that its absence can furnish no positive indication. We have known some difficulty to have been experienced in distinguishing between a coagulum at the mouth of the womb and the placenta; but the substance of the latter being intersected by numerous fibrous bands, which offer some resistance to the finger, gives a sensation very different from a mere clot of blood.

In all cases of accidental hæmorrhage and partial presentation of the placenta, where the membranes could be felt at the os, the established practice was to rupture them, either with the finger or a blunt stilette, should the discharge of blood be immoderate, or prove uncontrollable by the ordinary means.* If this did not induce an amount of uterine contraction sufficient to repress the hæmorrhage, other means of a similar tendency were resorted to, such as friction over the uterus, stimulating enemata, or, if the state of parts would admit, the ergot of rye, unless much exhaustion or depression of the vital energies was present. Such a condition of the patient always renders the use of ergot extremely hazardous, as the effect of this medicine upon the system is in itself depressing. It very rarely happens, however, that rupturing the membranes is not an effectual means for suppressing the hæmorrhage in cases such as have been just described; and there can be no question but that it is a much safer proceeding than

tached over the orifice of the uterus. When in my previous examination I had pushed up the fœtus, it had fallen on the placenta, the thickness and softness of which prevented the impulse at the moment of its fall from being communicated to my finger."—*Diseases of Women*, p. 224.

* In cases of partial presentation of the placenta, it has sometimes happened at the commencement of an attack, while the os uteri was yet small, that the placenta alone could be felt on examination; but after the dilatation had proceeded some way, the membranes came within reach of the finger, thereby disclosing the real state of the case.

introducing the hand and turning. If pains come on, we may rest assured that the effusion of blood will be restrained; and if the uterus be not excited to action, and that the hæmorrhage continue, no great difficulty can be experienced in the operation of version. But we must again repeat, that a case in which the ulterior measure of turning will be called for, is extremely rare. Our personal observation leads us to this conclusion, which is further corroborated by the more extensive experience of Dr. Johnson. Where the patient is much reduced before the operation of puncturing the membranes, it is most desirable that labour should not set in for some hours, provided, of course, that the great object of our interference, the arrest of the hæmorrhage, shall have been achieved; as the respite will allow time for the strength to be recruited before any further demand is made upon her enfeebled bodily powers.

Under circumstances of this kind, where the hæmorrhage has been controlled by letting off the liquor amnii, but the patient is miserably weak, it becomes a question worthy of serious consideration, whether a full opiate may not prove beneficial, by deferring the accession of labour pains to a more favourable time. We have seen it administered with this intention, and have had reason to be much gratified at the result.

A very uncommon form of accidental hæmorrhage is where the effusion of blood takes place between the placenta and uterus. No example of this has ever come under our observation, but Dr. Johnson has related to us the particulars of two such cases, to which he was called in consultation in the course of private practice. In neither of these cases was there any external hæmorrhage whatever, and the separation of the placenta seemed to have been produced in one of them by outward violence, but in the other it was apparently of spontaneous origin. Both these patients sank under the loss of blood, and, upon examination *post mortem*, nearly the same appearances were found in each, viz., the placenta, except at its extreme margin, was entirely detached from the uterus, and the cavity or interspace between the two contained an enormous quantity of partially coagulated blood. When called in to one of these patients, he ruptured the membranes, though there was but little prospect of its being advan-

tageous, as at the time she was almost moribund. Connected with this same patient is a circumstance which deserves to be mentioned. Shortly after the commencement of the attack, she evinced an instinctive knowledge of its nature, and, during the brief interval of existence that remained, frequently exclaimed "that she was flooding to death!"

It has been well remarked of unavoidable hæmorrhage, that it constitutes one of the strangest anomalies in nature, for the very process by which the young being is to be ushered into existence, is that which directly tends to place its mother's life in the most imminent peril, if not to extinguish it altogether. This complication of labour is very justly regarded as one of the most formidable which the accoucheur has to encounter in the course of practice. Happily, however, it is by no means common, occurring, on an average, only once in 1,500 cases, according to the combined statistics of Dr. Joseph Clarke, Dr. Collins, and of this Report; and if we exclude the instances of partial presentation of the placenta, which did not require the operation of turning, its frequency will appear still lower. We have not observed the existence of any constant or uniform proportion between the quantity of the hæmorrhage and the extent to which the placenta has covered the os; on the contrary, we have seen as profuse and alarming losses where there was only an edge presenting as in any other cases.

We have already alluded to the diagnosis of this species of flooding, but there is one other fact connected with it which is worth remembering, namely, that unavoidable hæmorrhage may take place, and proceed, even to an alarming extent, without being accompanied by any sensible contractions of the uterus. Hence, the absence of pains in any doubtful case is entitled to no value as a diagnostic.

The general rule of practice in placenta prævia is to introduce the hand and deliver by turning the child; but to this precept there are, as has been already remarked, many exceptions; so that we may almost restrict this measure to those cases where there is a complete, or nearly complete implantation of the placenta over the os uteri, or where rupturing the membranes has proved ineffectual in arresting the hæmorrhage.

As regards the precise period at which to operate, the great point here, as in other cases requiring the interposition of art, is to time properly our interference, avoiding on the one hand rash precipitancy, and on the other, unnecessary, or it may be, injurious delay. In those floodings where the membranes present at the os, the exact time for interfering is determined by the constitutional effects of the loss of blood that the woman has sustained; and so soon as it is perceived that further hæmorrhage cannot be borne with impunity, or that the ordinary measures are inadequate to control the discharge, labour is provoked by evacuating the waters. But in the species of flooding now under consideration, it is the size and dilatibility of the os uteri which regulate the practice, and point out the exact time when active interference ought to be had recourse to.

Before the mouth of the womb has opened sufficiently to render the passage of the hand practicable, reliance is placed for the arrest of the discharge on the use of the tampon or plug, together with the strict observance of all the general rules applicable to every case of uterine hæmorrhage. We have never seen any unpleasant consequences to ensue from the use of the vaginal plug, and on several occasions have had much reason to be gratified at the success which attended its employment under circumstances of an alarming nature. In order to qualify this commendation, it is necessary to mention the principal rules and cautions observed when using it.

Plugging the vagina, as has just been intimated, was only resorted to in the Hospital in cases where the entire os uteri was covered by the placenta, and whilst it was still in such a state as would have obstructed the entrance of the hand. By restricting its application to cases of this description, the liability of internal hæmorrhage is very much lessened, if not completely obviated; at least this is the conclusion to which our experience has led us. It is well, however, always to bear in mind the possibility of this serious occurrence, and to keep a close watch over the patient as long as the tampon remains in the vagina.

Different materials have been recommended for plugging, but in the Hospital the preference was given to a soft silk pocket-handkerchief. This was first dipped in sweet oil, and then one

corner of it was carried up to the os uteri by the fingers of the right hand; the remainder was slowly and regularly introduced and in such a manner as to fill the upper part of the vaginal canal first. This operation requires to be done with care and gentleness, as it is usually productive of more or less pain and annoyance to the patient. Saturating the handkerchief with oil, instead of vinegar as sometimes recommended, we have found to be much more advantageous, as it tends most materially to lessen the difficulty attending its introduction, and also is less irritating to the vagina than vinegar.

The plug should never be allowed to remain longer than twenty-four hours in the vagina; and during this period it is requisite to pay attention to the state of the bladder, as retention of urine is sometimes induced, and demands the use of the catheter. One case of unavoidable hæmorrhage in the seventh month lately came under our observation, where the child, secundines, and plug, were all expelled together, *en masse*, and thereby terminated a labour for the result of which much apprehension had been entertained.

The operation of turning should not be performed until the mouth of the womb be so far dilated, or in such a condition as to offer no material resistance to the passage of the hand. The best practitioners are unanimous in condemning all attempts at rudely forcing the hand through the uterine orifice, as the very worst results are to be apprehended from such a proceeding,—one which is in any case dangerous, but in these of placenta prævia peculiarly so. “It is seldom safe,” writes Dr. Lee,* “to attempt to deliver by turning before the os uteri is so far dilated that you can easily introduce the points of the four fingers and thumb within it: however soft and relaxed it may be, until dilatation has commenced and proceeded so far, I am convinced there are very few cases in which the operation of turning will be required, or completed, without the risk of inflicting some injury on the os uteri. This is a point of the greatest practical importance, but I do not know in what manner to communicate to you, in words, a more clear and definite idea of the grounds upon which you

* Lectures on the Theory and Practice of Midwifery, p. 373.

ought to proceed." With respect to the exact manner of effecting the introduction of the hand, the plan adopted by Dr. Collins is that which has been followed, namely, to pass it up wherever the least resistance was offered; and this was invariably found to be beside the placenta, between it and the uterus. In the subsequent steps of the operation the same rules are followed as in turning for arm presentation. The hæmorrhage generally ceases altogether when the breech begins to be engaged in the superior strait of the pelvis, owing to the pressure which is then made upon the placenta and bleeding uterine orifices. At this period of the delivery we have sometimes, when there was any disposition to inertia, given a dose of ergot, with a view to secure good contraction of the uterus subsequent to the birth of the child, and so prevent any further hæmorrhage, as such, after the previous loss, might be attended with disagreeable or even fatal consequences.*

Of the plan lately recommended by Drs. Simpson and Radford, for extracting the placenta before the child in certain cases of hæmorrhage,† we cannot speak from experience, and the mere expression of our opinion upon its merits would not carry much weight. Dr. Johnson entertains very strong objections to the practice, not only because it necessarily destroys the child, but also from a conviction of its inapplicability to cases of rigid os uteri, which is the chief or almost only obstacle to the per-

* Further remarks upon this use of ergot, as a *preventive* of hæmorrhage, will be seen in a future page.

† Dr. Simpson recommends it as "a mode of treatment to be adopted when rupturing of the membranes is insufficient, and turning is either inapplicable or unusually dangerous. I believe," he continues, "it will be found, *for instance*, the proper line of practice in severe cases of unavoidable hæmorrhage, complicated with an os uteri so insufficiently dilated and undilatable, as not to allow, with safety, of turning; in most primiparæ; in many of the cases in which placental presentations are (as very often happens) connected with premature labour and imperfect development of the cervix and os uteri; in labours supervening earlier than the seventh month; when the uterus is too contracted to allow of turning; when the pelvis or passages of the mother are organically contracted; in cases of such extreme exhaustion of the mother as forbids immediate turning or forced delivery; when the child is dead; and when it is premature and not viable."—*Med. Gazette*, October, 1845. This numerous category of cases may be resolved into three groups, according as turning is prevented from the state of the os uteri; from contraction of the pelvis; or from the extreme exhaustion of the patient.

formance of turning in placenta prævia cases. Without entering into any analytical examination of the ingenious arguments brought forward by Dr. Simpson in support of this novel mode of treatment, we would venture to make a few casual remarks upon one or two of his positions. In the first place, as regards the source of the hæmorrhage, he writes: "I know of no reason, anatomical or otherwise, for alleging that the open placental orifices do not bleed; and on the contrary, I believe with Dr Hamilton and others, that the discharge issues principally or entirely from the vascular openings which exist on the exposed placental surface;" and again he observes: "in proportion as we approach nearer and nearer a total separation of the placenta, the number of its different utero-placental vessels is diminished, till at last we find, that when the one organ is once completely separated from the other, the flooding is instantly moderated or entirely arrested.* Now if this doctrine were correct, the conclusion might legitimately be drawn, that hæmorrhage after the birth of the child and expulsion of the placenta *ought* to be an exceedingly rare occurrence: but unfortunately such is not the case, as every one knows. We do not at all deny the possibility of hæmorrhagic discharge taking place from the detached portion of a partially separated placenta, for there is no physiological reason why this should not happen; but we cannot persuade ourselves that the great amount of the hæmorrhage does not proceed from the uterine vascular orifices.

Again, respecting the suppression of the hæmorrhage, we can, with Dr. Ashwell, easily "*suppose* that when the liquor amnii has fully escaped, and the placenta has been, whether safely or not, removed, further hæmorrhage may be stayed by contraction; for the uterus has thus got rid of a considerable portion of its contents, contraction to a greater or less extent will of necessity ensue, the restraint of further bleeding being thereby secured."† It must also follow as a consequence of this contraction (which the irritation of the os by the hand strongly tends to promote), that the presenting part of the child will be pressed against the bleeding orifices of the uterine vessels, and thus an additional

* Medical Gazette, October, 1845.

† Medical Gazette, November, 1845.

check will be put to the discharge of blood. These causes we regard as adequate to account for the abatement of the discharge after the removal of the placenta, without resorting to the supposition that the latter is the main source of the hæmorrhage. By some authors it has been made a strong ground of objection to the plan of puncturing the membranes for accidental hæmorrhage, that, should version for any reason be subsequently required, the difficulty of its performance will be greatly augmented. Now surely the same would apply with equal, if not greater, force to the mode of treatment at present under consideration.

Lastly, we must, with a very recent writer,* express our surprise that Dr. Simpson should, in his tables of mortality, have included cases of the spontaneous separation and expulsion of the placenta, with those cases where artificial separation had been resorted to; the former being examples of an entirely natural process, carrying along with them self-evident proof that *most energetic and powerful uterine action* must have been present, which satisfactorily explains why the hæmorrhage ceased upon the expulsion of the placenta.

No instance has ever come under our observation of the placenta having been expelled before the child; but Dr. Johnson saw one such; and in this case the flooding continued with little abatement after the placenta had come away, so that the hand had to be introduced, and delivery completed by turning.

The use of opium in this as well as the accidental species of flooding is a very nice point of practice, and one that, to decide on correctly, requires considerable discrimination and judgment. It is very much to be wished that there were some fixed principles to guide us in the administration of the drug, for unfortunately there seems to prevail amongst practitioners very indefinite notions respecting its *modus operandi*, and very opposite opinions as to its practical value and utility in the treatment of uterine hæmorrhage. From the manner in which it is extolled by some, one would almost be led to imagine that it possessed a specific power to control flooding; whilst others as strenuously condemn

* Dr. Tyler, Dublin Quarterly Journal of Medicine, May, 1847.

its use. Now we think this question may be disencumbered of much perplexity, and be greatly simplified, by bearing in mind the different intentions which opium can fulfil when exhibited under circumstances such as we are describing. In the first place, then, it is capable of acting as a most powerful general stimulant, and of supporting life under the depression and collapse produced by enormous losses of blood. To effect this intention it must be given in large doses.

Secondly, it cannot be doubted but that opium possesses the power of arresting the alternate or sensible contractions of the uterus, or "pains," as they are commonly called; but for this purpose it must be exhibited in doses above the ordinary strength.* There is every reason to suppose that all the preparations of opium do not possess either or both of these properties in the same degree. Those which experience has led us to place most confidence in are the solid opium, acetous tincture, watery extract, and the black drop.

Now if it be true (as we imagine) that the utility of opium in the treatment of hæmorrhages depends on one or other of these properties, it follows, that its exhibition cannot be indicated unless either of the effects above ascribed to it be desirable.

It has already been stated under what combination of circumstances the use of opium in accidental hæmorrhage is calculated to prove serviceable. Its power of checking uterine action, however, generally renders the sphere of its utility very limited in this species of flooding; whereas in unavoidable hæmorrhage

* We specify that the quantity must be large in conformity with current opinion, and also because in two or three instances we have seen a very obvious increase of strength in the pains to follow upon the administration of a moderate opiate. The late Dr. Hamilton (of Edinburgh) seems to have been well aware of this effect of the drug, for, speaking of its use in tedious labours, he remarks: "Whenever we give an opiate we cannot say *a priori* whether it will have the effect of superseding the pains, or of increasing the uterine contractions. We should, therefore, question ourselves whether, if we give it, the suspension of the pains for a few hours can do any harm to mother or child; or whether, if it should immediately excite strong pains, the parts are in such a state as to admit safely of delivery."—*Manuscript Lectures*.

Denman also remarks, "that when given in a common dose it excites the uterus to stronger action."—*Midwifery*, p. 351.

this rarely constitutes so decided an objection to its use, but, on the contrary, often renders it peculiarly eligible.

Judging from what we have seen of its employment in this latter class of cases, it may, we think, be exhibited with a prospect of benefit, where there has been an alarmingly profuse loss before the mouth of the womb has dilated to such an extent as to admit the passage of the hand. The tampon can be used in conjunction or not according to circumstances. In examples of this kind, the opiate acts beneficially in two ways, first, by recruiting the patient's strength; and secondly, by diminishing the hæmorrhage, which effect is directly dependent upon its success in producing a temporary suspension of the pains. Should unavoidable hæmorrhage take place in consequence of a threatening of premature confinement, the administration of a full opiate is well worthy of trial, in the hope of its tranquillizing the uterus, and thereby postponing the accession of labour, as it is particularly desirable, in cases of placenta prævia, that gestation be far advanced before parturition sets in.

Again, where the os uteri is fully dilated, or nearly so, but yet the patient is so extremely low as to excite apprehensions of a fatal result, if the operation of turning be attempted, a full opiate (provided that the hæmorrhage be not actually going on) will probably be found of the most signal service, by giving time for the administration of nourishment, and for rallying her weakened energies, after which there will be a better chance of a favourable issue to the operation. We have seen opium administered under the circumstances just described, and with the most satisfactory results. Such cases, doubtless, are extremely rare, but they are about the most perplexing and disagreeable we can meet with.

But, after all, it is in the hæmorrhage which follows delivery that the admirable effect of opium in sustaining the all but extinct powers of life are so conspicuously seen. On these occasions it displays an efficacy truly wonderful, and which is not possessed by any other remedy known to physicians. To this subject, however, we shall again return.

Hæmorrhage during Labour.—When this takes place in the first stage, it obviously must be referred to one or other of the two

species recently spoken of, and be treated accordingly. But hæmorrhage, in the *second stage of labour*, is that of which we are now speaking. This is a much more uncommon accident, and one that demands very serious attention when it does occur. It may arise from rupture of the uterus, laceration of bands in the vagina, or from simple detachment of the placenta, how produced it is not easy to say, probably from unusual shortness of the funis, or, what in effect is the same, from its being coiled around the neck or body of the child. Extreme restlessness, or outward violence would also be adequate to produce the same result.

Examples of each of these three varieties have fallen under our observation in the Hospital, but in none of them was the loss of blood by any means profuse, or in itself sufficient to create alarm. The third form is, in its nature, essentially the same as accidental hæmorrhage, and its treatment is to be conducted on the very same principles. Of this variety, four or five examples have presented themselves, but in each the labour terminated favourably, and, except in one instance, without any instrumental interference, a stimulating enema or a dose of ergot having proved adequate to suppress the discharge. In the exceptional case just alluded to, it was necessary to expedite delivery by using the forceps. Its history will be found recorded amongst the cases of hæmorrhage before delivery, No. 11. The ergot of rye is, *cæteris paribus*, peculiarly well adapted to such cases as these, inasmuch as the plain indication is to stimulate the uterus to more powerful contraction. Should these means fail, however, and the symptoms become urgent, the only remaining alternative would be to effect delivery. A case of this kind occurred to us not very long ago, out of the Hospital, where we had to use the forceps in order to bring the labour to a termination.

From the facts above stated, the conclusion may fairly be drawn that hæmorrhage, to any great or dangerous extent, is an extremely rare occurrence in the second stage of labour. Amongst the following cases will be found the details of three, in each of which there was hæmorrhage in the second stage of labour. Their numbers in the general table are 11, 18, and 24.

Thirty-seven cases of hæmorrhage before delivery were noted

in the Hospital during the three years of our report. In *twenty-nine* of these the hæmorrhage was of the accidental form; and in *eight* it arose from partial or complete attachment of the placenta over the mouth of the womb.

These latter cases shall be considered first.

Five of them were examples of partial presentation of the placenta, an edge only having been over the os uteri, whilst in the three remaining cases, the os was completely covered by the placenta. In *three* cases the delivery was effected by the natural efforts; in *one* by the forceps; and in *four* by turning. *Three* women died, viz., one from exhaustion, and two from phlebitis; two of them had been delivered naturally, and one with the forceps. The histories of these eight cases we shall now relate. The number prefixed to each shews its place in the General Table of hæmorrhages before delivery.

No. 1.—This was a case of partial presentation of the placenta, and turning had to be performed shortly after her admission, as she was very much reduced from the loss of blood; the hæmorrhage was going on, and the membranes had been ruptured, from the evening before. The child seemed to have been some time dead.

During the first few days after her confinement there was some uterine pain and tenderness, which subsided under mild treatment, and she was able to leave the Hospital on the thirteenth day.

No. 3.—In this case merely the edge of the placenta encroached upon the os uteri, which had not begun to dilate when she was admitted into the Hospital. She had not lost much blood, and the hæmorrhage, which was then slight, was arrested by the application of cold to the genitals. The pains subsided soon after she came in, and did not return until next day. In about three hours after the accession of labour she was safely delivered of a dead child. Her recovery was uninterruptedly good.

No. 6.—M. G., aged 34, tenth labour, was brought from the country to the Hospital in a state of great exhaustion from hæmorrhage, on May 25, 1842. When admitted, the discharge had ceased, and on examination the edge of the placenta was felt at

the os uteri. Shortly after her admission, the pains subsided, and did not return until the 28th, which afforded time for recruiting her strength. The child was expelled after three hours' labour without any recurrence of the hæmorrhage. The placenta was allowed to remain for two hours in the vagina, and during this space, or subsequently, there was no hæmorrhage whatever, either internal or external. Nevertheless, shortly after the removal of the after-birth, sudden sinking came on, and although brandy and opium were most liberally administered, and every needful attention given her, she continued to lose strength, and expired in about three hours after delivery.

No. 26.—This was a case of nearly complete implantation of the placenta over the os uteri. Version was performed, and a live boy extracted after the full dilatation of the os uteri.

No. 27.—B. N., aged 28, first pregnancy; admitted June 30, 1844. About two months before admission she had some slight uterine hæmorrhage, which was not preceded or accompanied by pain. On the day upon which she came into the Hospital there was a considerable amount of discharge, and upon examination the os uteri was found unopened, and the cervix not entirely obliterated. The feel of the uterus immediately around the cervix was soft and cushiony, and no part of the fœtus could be felt, although the uterus had very much descended into the pelvis. The placental souffle was detected in the left iliac region, and extending thence into the suprapubic. It had a sharp, peculiar sound, very different from its usual character. The fœtal heart was distinctly audible. During the day she was kept quiet, and got mild nourishment, and was free from all pain and sanguineous discharge until 7 o'clock in the evening, when there was a return of both. The quantity of hæmorrhage this time amounted to about sixteen ounces, and had the effect of weakening her very considerably. The vagina was now plugged with a silk handkerchief, previously dipped in sweet oil, and although the pains continued for a short space after this operation, there was no more loss of blood.

At 11, P. M., the tampon was withdrawn, and the os uteri was found unchanged, but the cervix had become more obliterated. From this time until July 3 there was no pain or hæmorrhage, but at 3 o'clock in the forenoon of this day there came a sudden gush

of about a pint of florid blood, which greatly reduced her. The vagina was again plugged in the same manner as before, and with an equally successful effect. The pains, which also had recurred, continued strong during the day. At 7 o'clock in the evening the plug was removed for the purpose of ascertaining the state of the os, which was found so far dilated as to admit the point of the finger. In consequence of another dash of blood, the tampon was replaced, and some brandy and chicken broth given, as she was very weak. Thirty-five minims of Acet. Opii were also exhibited, as it seemed most desirable to allay the pains in order to give time for her strength to be recruited. This had the desired effect, and she enjoyed undisturbed rest during the night, and the following morning (4th July) seemed vastly improved. At noon the plug was withdrawn and the catheter introduced, as there was retention of urine since the preceding evening. Early this morning the liquor amnii drained away, but the os uteri was in the same state as when last examined. The uterus appeared more contracted on the body of the child, and the foetal heart was audible.

Nourishing food was allowed her as often as she would take it, and perfect rest enjoined. At 4, P. M., the pains returned, but were not accompanied by hæmorrhage. The dilatation of the os proceeded gradually, and as it opened, and the head descended, the edge of the placenta receded more and more out of reach. At 10 o'clock the os was the size of a dollar, the pains regular, and no trace of hæmorrhage. The use of the catheter was again necessary at half-past 11 o'clock. Soon after, the alarming symptoms of prostration set in, and as the head was in the perinæum, the forceps were applied, and delivery effected. The child was dead-born, contrary to our expectation, as the foetal heart had been heard some few hours before. The placenta came away in two hours, with the aid of a little pressure over the uterus, which contracted well, and no hæmorrhage ensued. Nevertheless, she was so exceedingly weak as to require the closest attention, and the administration of diffusible stimulants and opium from time to time.

Second day. Seems improved; perspired freely during the night; pulse 100, and steady, but feeble; tongue dry and brown;

thirst; abdomen full; uterus large and free from pain or tenderness; offensive dark lochial discharge; retention of urine.

To get chicken broth in small quantities during the day.
Mercurial inunction.

Vesperé. Slept during the day; abdomen tympanitic; uterus more contracted, but tender on pressure; had a slight rigor this evening at 10 o'clock, for which she got an opiate.

Third day. Rested badly; countenance pale and anxious; pulse 92, and very feeble; breath has a disagreeable odour; tongue dry; thirst; bowels not moved since delivery; abdomen large and tympanitic; uterus large and painful; lochia pale and watery.

Turpentine stupe to belly; and if the bowels do not act after this, to get a draught containing ℥iii. of Oil of Turpentine.

Chicken broth to be omitted, and sago given instead.

Mercurial frictions thrice daily.

Vesperé. Had a slight rigor at 2, P. M., and at 6 o'clock another one, very severe; pulse now (9 o'clock) 100; bowels have been moved three times by the draught; abdomen very little reduced in size.

Anodyne Draught.

Fourth day. Had three hours' sleep in the night, after a rigor which occurred between 12 and 1 o'clock; pulse 132, small, and vibrating; tongue and mouth dry; urgent thirst; bowels not moved in night; voided much urine; pressure on abdomen is productive of much pain.

Olei Terebinth. ℥iii. ss.

Vesperé (10 o'clock). Had two rigors in the course of the day; countenance sunk; the bowels have not been moved by the turpentine; complains of a burning sensation in the stomach; vomited some greenish fluid; pulse 132, feeble, and thready; respiration hurried.

Is getting wine and arrow root.

Haust. anodyne.

Fifth day. Had a restless night; pulse scarcely perceptible; is evidently sinking rapidly. Over different parts of the extremities the integument has a mottled appearance. She died at noon.

Autopsy, seven hours after death.—Great tympanitic distension of the abdomen. Extensive peritonitis, with copious effusion of lymph and brown serum. *Uterus* large and emphysematous from gangrenous decomposition. Its inner surface is dark and highly offensive. Pus exudes in large quantity when incisions are made into the cervix, or near the broad ligaments. *Liver* and *spleen* very soft and friable.

No. 31.—In this case the placenta was implanted over the os uteri, and there was a good deal of hæmorrhage along with the pains, until after the introduction of the plug. As soon as the os uteri was sufficiently dilated to admit the hand, version was resorted to with perfect success to mother and child, both of whom left the Hospital on the seventeenth day.

No. 33.—This woman was admitted on the 16th September, 1844, on account of excessive uterine hæmorrhage in the last month of pregnancy. When examined, the os uteri was found considerably dilated, and covered by the placenta; nevertheless, at one part, when the finger was passed up between the os and placenta, the membranes could be reached. They were ruptured in the hope that the hæmorrhage would be thereby stayed. Such a result, however, did not take place, and it subsequently became necessary to introduce the hand, and accomplish the delivery by turning, which was not effected without some difficulty. She was much reduced by the loss of blood, but nevertheless made a good recovery, and was discharged on her twelfth day. The child was born alive.

No. 37.—M. C., ætatis 30, tenth labour; admitted June 21, 1844. She had some hæmorrhagic discharge from the vagina on the first of the month, which ceased of itself, but recurred three days ago, and has continued at intervals up to the present time. Upon admission, there was no hæmorrhage going on, but she seemed weak. The os was high up, and perfectly closed, so as to prevent our ascertaining the cause of the hæmorrhage; but the

placental souffle was heard low in the left iliac region, thence extending immediately above the pubis across to the opposite side. From this it was inferred that the case was one of unavoidable hæmorrhage.

At 5, A. M., of the 22nd, the discharge returned, and she lost about a pint of blood, which lowered her very much. The os uteri would just admit the finger, and it was discovered that an edge of the placenta was presenting; above this, the foetal head could be felt, when strong pressure was made on the fundus uteri. Cold applications were diligently employed, and appropriate nourishment given to her. No further discharge took place till 3 o'clock in the afternoon. As the os was then somewhat more open, the membranes were ruptured, with the assistance of a strong stilette. After this she got a cold enema, and in half an hour pains came on, which, within twenty-five minutes, expelled a living boy. The placenta came off naturally, but though there was no loss, she was extremely weak, and had to get support. The same night she was rubbed in with mercurial ointment.

For the first eight days after delivery, her symptoms presented but little variation; the pulse was never under 120; she had sleepless and unquiet nights; the lochial discharge was unhealthy; there was no secretion of milk; and diarrhœa was constantly present; but there was no complaint of pain or tenderness in any part of the belly, nor had she any rigor.

Ninth day. Had no sleep in the night, and was at times delirious; pulse 128, and very feeble; tongue dry and brown, with red edges; thirst; complains of deep-seated pain in the epigastrium, but there is no tenderness; no evacuation from the bowels during the night. There is a painful swelling, of a dusky red colour, on the anterior part of the left fore-arm, and on the fore-finger the cuticle is raised at one part in the form of a large vesicle, filled with yellow, opaque serum; she has also pains in the shoulder and ankle-joints, but there is no enlargement or discoloration.

Is allowed wine, arrow-root, and chicken broth.

Tenth day. *Vesperé*. Is more prostrated; pulse 140, and nearly

imperceptible; sordes on the teeth; raves frequently, but answers questions coherently; the swelling on the right arm has increased; scattered over the left leg and foot are numerous bullæ, filled with opaque yellow serum, and set on inflamed bases. She continued to sink, and at noon on the following day expired.

Autopsy.—*Peritonæum* healthy. *Uterus* soft and ill-contracted; its internal surface sloughy; incisions into the cervix yielded large quantities of puriform matter, which exuded from the divided venous trunks. *Liver* very soft and light-coloured. *Spleen* almost reduced to a state of diffluency. *Kidneys* healthy. *Lungs* presented nothing abnormal, except some few dark-coloured tumours which lay scattered throughout the base of the left. These small bodies, when divided, were found to contain purulent matter in their centre. The *heart* was natural. The tumour on the fore-arm was an abscess in the cellular tissue, portions of which were reduced to a state of slough, and came away through the incision, along with the pus.

Every circumstance in the history of the case is interesting and instructive. The operation of puncturing the membranes was most prompt and efficacious in its effects; for not only was the hæmorrhage thereby completely subdued, but delivery was happily accomplished within an hour after the evacuation of the liquor amnii. In its subsequent history the case may be looked upon as an instance of pure phlebitis, and during its course four different sequelæ of this disease occurred, viz.: 1. Inflammation and sloughing of the cellular tissue beneath the skin. This, it will be remembered, was what took place in the left fore-arm. 2. Affection of the joints. The amount of arthritis in this patient certainly was very trifling, but that there had been some cannot be doubted, from the severe pain she felt in the shoulder and ankles. 3. This patient further exhibited in some parts a condition of the cuticle which we have remarked in other cases of phlebitis, and which we feel disposed to regard as one of the secondary affections of the disease. Speaking of the changes in the skin and mucous membrane, consequent upon phlebitis, Dr. Kiwisch observes: "The metastatic deposits in the skin sometimes appear under the form of boils, sometimes of pustules, which are not unlike those of small-pox, or form large purulent bullæ,

which are only covered by epidermis."* In the present case, the appearances alluded to have been already described. They were elevations of the cuticle in the form of bullæ, filled with yellow, opaque serum, undistinguishable from pus, and set upon inflamed bases. In fact they were precisely similar to the bullæ of pemphigus, except that the contained fluid was not transparent. Lastly, upon the examination *post mortem*, it was discovered that there existed in the base of the left lung incipient lobular abscesses, each of which was found to contain, in its centre, a very minute quantity of pus.†

It cannot have escaped the reader's observation, in perusing the histories of these eight cases of placental presentation, that of the three women who died, *one* was delivered by the forceps, and *two* by the natural efforts; whilst the *four* patients in whom turning was performed, and one of them under very unfavourable circumstances, recovered most satisfactorily.

It has been already mentioned that *twenty-nine* cases of Accidental Hæmorrhage occurred in the Hospital during the three years of our Report. This number may appear inordinately large; and so, doubtless, it would be, had we not included every case where the loss of blood was sufficient to require special treatment of any kind.

In *fourteen* instances the membranes were ruptured artificially, and delivery was effected by the unassisted efforts of nature; viz., Nos. 2, 4, 7, 10, 14, 15, 16, 21, 22, 23, 25, 29, 30, and 32. In *thirteen* instances the loss of blood was restrained by other means, such as cold, stimulating enemata, ergot of rye, &c., and the labour terminated naturally. In *one* case delivery was effected by the forceps, and in *one* case by the perforator and crotchet.

Eighteen of the children were born alive; *nine* were born dead; and *two* putrid. Of the *twenty-nine* women *four* died.

We shall give a brief sketch of such of these cases as merit particular notice, and in the general table will be found the leading points of interest connected with all the cases of hæmorrhage before delivery.

* British and Foreign Medical Review, No. xxv.

† See No. 2 of the cases of Retention of the Placenta for further remarks upon this subject. In case 218 of the Tedious and Difficult Labours (p. 148), appearances nearly similar to those found in the above, existed in both lungs.

No. 5.—This case will be found detailed amongst those of Retention of the Placenta, No. 3.

No. 7.—This woman received an injury three weeks before her admission, and throughout this interval she was seldom free from hæmorrhagic discharge. Immediately upon the rupture of the membranes all hæmorrhage ceased, and the child was expelled within a very short space of time.

No. 11.—Upon admission, and for some time previously, this woman had slight hæmorrhage, which ceased after she was put into bed. During the night some reddish water flowed from the vagina, and in the morning labour set in, unaccompanied by hæmorrhage. At 8, A. M., the os uteri was the size of a crown-piece, the pains regular, and the foetal heart audible. At half-past 9 o'clock, the os being fully dilated and the head on the perinæum, smart hæmorrhage came on. Ergot of rye was administered, but failing to increase the strength of the pains, the forceps were applied, and the child extracted with great ease: it was not alive. Many large clots came away from the uterus along with the child; but the hæmorrhage stopped as soon as it was withdrawn.

This is one of the few cases where we have seen severe hæmorrhage in the second stage of labour. The patient recovered perfectly. As we have already offered some remarks upon this subject, it is unnecessary to make any comments upon the case.

No. 12.—This patient, before coming into the Hospital, had much hæmorrhage, which ceased upon the spontaneous rupture of the membranes. The hand had to be introduced for the placenta after delivery, and she died of arthritis on the twenty-first day. The history of her case will be found along with those of Retention of the Placenta, No. 10.

No. 18.—In this case the breech presented, and when on the perinæum, the os uteri being fully dilated and the membranes ruptured, a copious hæmorrhage began to flow from the vagina. As the pains were feeble, she got a dose of ergot, and a stimulating enema. These acted well, and the child was speedily expelled, together with a large quantity of coagula, after which the discharge of blood totally ceased.

No. 23.—This woman was in the eighth month of her twelfth pregnancy, and for some months before her admission into the Hospital her general health had been very much impaired. She

had lost a considerable quantity of blood before coming to the Hospital, and was very much weakened in consequence. The os was found somewhat dilated, and the membranes were easily punctured. This at once arrested the hæmorrhage, but she remained very feeble, and had to get brandy and nourishing food. The child was not born for about sixteen hours after this; it was putrid, and the breech and funis presented. The placenta came away with some pressure, and was followed by the discharge of a few large clots, and slight hæmorrhage. Though the loss of blood was, comparatively speaking, very trifling, she continued to sink, and, notwithstanding the most unremitting attention and liberal administration of stimulants, she died in three hours after delivery. The following were the appearances found on examining the body: *uterus* very soft, and ill-contracted; its external surface presented an ecchymosed appearance. *Liver* and *spleen* very much softened; the latter was almost in a semi-liquid state: the *heart*, also, had lost much of its natural firmness, and could be easily lacerated with the finger. Upon her legs and ankles were some spots of purpura.

The actual amount of blood which this woman lost after delivery would, in itself, have been wholly inadequate to extinguish life, had there not been a concurrence of some other unfavourable circumstances, to which, in fact, her death may fairly be attributed: one of these was the previous hæmorrhage; but the other, and by far the most influential, was the extremely debilitated and broken-down condition of her general health.

No. 24.—In this case the hæmorrhage came on after the rupture of the membranes, and when the head was on the perinæum. The uterus was stimulated by an active enema, and on the birth of the child, which bore evidence of having been very recently alive, all hæmorrhage ceased.

No. 28.—For some days before this woman came into Hospital she had occasional discharges of blood from the uterus. On the day of her admission (July 17, 1844) the membranes ruptured spontaneously, which greatly moderated, though it did not completely suppress, the further loss of blood. The first stage of labour was speedily terminated, but the second was rather protracted; and the foetal heart's pulsations having ceased after a marked rigor, she was delivered with the crotchet, as she was

exceedingly weak and prostrated. The placenta came off in half an hour, and was only accompanied by very slight hæmorrhage. During the day it was necessary to administer nutritive sustenance, but she seemed to improve, and slept a good deal. Ten hours after delivery, however, sudden and alarming weakness came on, without any apparent cause, and she expired in two hours.

Autopsy.—All the viscera of the abdomen seemed much blanched. The *uterus* was imperfectly contracted. In its substance were imbedded numerous fibrous tumours. One of these, at the fundus, raised the serous coat of the organ, whilst the others lay nearer to its lining membrane.

No. 35.—E. B., admitted October 29, 1844. Is very much out of health, and has been suffering the extremes of want and misery of every description. She had a good deal of loss before admission, but none after. Her labour was only of four hours' duration. With the exception of the pulse being rather frequent, she progressed favourably up to the sixth day, when diarrhœa came on, rapidly succeeded by great acceleration of pulse, pain and swelling of the abdomen, and vomiting. Symptoms of collapse set in very soon, and she sunk on the eleventh day, at 6 o'clock, A. M. For some hours before dissolution there was incessant vomiting of fluid resembling coffee-grounds. She was perfectly clear and collected in her intellect up to the last moment of existence.

Autopsy, seven hours after death.—Intense peritonitis; copious effusion of opaque, straw-coloured serum, with a great quantity of shreds of lymph. The *omentum* and small *intestines*, also, were thickly coated with lymph. The *uterus* was perfectly healthy and well contracted.

This concludes the account of the several cases whose histories presented any features of importance or interest. Subjoined is the general table of all the cases of Hæmorrhage before Delivery. It requires but little explanation to render it intelligible. Under the head "Nature of Hæmorrhage" the letter *U.* stands for unavoidable, and the letter *A.* for accidental. Again, in the column headed "Mode of Delivery," the letter *T.* signifies that it was by turning; the letter *F.*, by the forceps; the letter *P.*, by the perforator and crotchet; and the letter *N.* shews that the delivery was natural. Lastly, the letter *V.*, under the head of "Observa-

tions," intimates that some account of the case has been given, which may be found by reference to the corresponding number amongst the preceding histories.

Number of Case.	Age of Patient.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Nature of Hæmorrhage.	Hours ill.	Mode of Delivery.	Result to Mother.	Observations.
1	35	11	B.	D.	U.	10	T.	R.	V.
2	27	1	B.	D.	A.	12	N.	R.	
3	39	9	G.	1	U.	2	N.	R.	V.
4	43	15	G.	D.	A.	1	N.	R.	
5	28	6	G.	1	A.	1	N.	R.	V.
6	34	10	B.	D.	U.	3	N.	D.	V.
7	27	2	B.	1	A.	2	N.	R.	V.
8	21	1	G.	1	A.	5	N.	R.	
9	33	8	G.	1	A.	4	N.	R.	
10	28	3	B.	1	A.	2	N.	R.	
11	20	1	B.	D.	A.	25	F.	R.	V.
12	30	7	G.	1	A.	4	N.	D.	V.
13	23	1	B.	1	A.	11	N.	R.	
14	37	9	B.	1	A.	10	N.	R.	
15	18	1	B.	1	A.	9	N.	R.	
16	25	1	B.	D.	A.	24	N.	R.	
17	26	5	B.	D. p.	A.	6	N.	R.	
18	30	8	B.	D.	A.	6	N.	R.	V.
19	25	2	G.	1	A.	3	N.	R.	
20	27	6	B.	1	A.	6	N.	R.	
21	38	7	G.	D.	A.	12	N.	R.	
22	24	4	B.	1	A.	12	N.	R.	
23	34	12	B.	D. p.	A.	16	N.	D.	V.
24	26	3	G.	D.	A.	6	N.	R.	V.
25	28	5	B.	D.	A.	3	N.	R.	
26	30	3	B.	1	U.	12	T.	R.	V.
27	28	1	G.	D.	U.	40	F.	D.	V.
28	25	1	B.	D.	A.	7	P.	D.	V.
29	25	2	G.	1	A.	3	N.	R.	
30	26	4	B.	1	A.	3	N.	R.	
31	39	11	B.	1	U.	2	T.	R.	V.
32	40	8	G.	1	A.	12	N.	R.	
33	30	5	G.	1	U.	$1\frac{1}{2}$	T.	R.	V.
34	30	7	G.	1	A.	7	N.	R.	
35	39	9	B.	1	A.	4	N.	D.	V.
36	25	3	B.	1	A.	4	N.	R.	
37	30	10	B.	1	U.	$\frac{1}{2}$	N.	D.	V.

Hæmorrhage after the Birth of the Child.—Speaking of this complication of labour, Dr. Gooch has, with great truth and justice, remarked, that “a practitioner who is not fully competent to undertake the management of these cases of hæmorrhage, can never conscientiously cross the threshold of a lying-in room.” No one at all acquainted with the matter can for a moment question the validity of this assertion.

The loss of a small quantity of blood after delivery cannot be considered detrimental where the patient’s constitution has not been previously debilitated or broken down ; and in tedious labours, where the uterine discharge has become offensive and dark-coloured, the occurrence of slight hæmorrhage after the birth of the child must be regarded as rather beneficial than otherwise, inasmuch as it is calculated to wash away the putrid matter from the mouths of the vessels on the interior of the uterus, and tends further to put the system into a favourable condition for the action of remedies, particularly mercury, should the exhibition of such be subsequently called for. But when the hæmorrhage is of any considerable amount, it is decidedly injurious, not only from the weakness directly caused by the loss, and which necessarily retards complete recovery, but also because it greatly favours the process of absorption, in consequence of which there is an increased liability of some of the vitiated fluids in the uterine cavity being taken up into the general circulation, an event always to be dreaded from its pernicious and baneful effects, and one that is deemed by very high authorities to be a fruitful source of puerperal fever in some of its most intractable forms. The ill-contracted state of the uterus which attends upon and follows profuse losses at the time of labour, is a circumstance which also favours the entrance of any foreign matter into the maternal circulation by leaving the mouths of the veins on the raw internal surface of the organ incompletely closed (Hasse).* Denman, with his usual acuteness of observation, has noticed this fact. Speaking of puerperal fever, he writes: “It seemed an observation of importance that those women who had lost much blood at the time of delivery were more liable to the disease, and that it was more commonly fatal to them.”†

* Pathological Anatomy, Sydenham Society’s translation.

† Midwifery, p. 481.

Preventive Treatment.—It is by no means uncommon to meet with women who always evince a disposition to flooding after delivery, and who thereby lose a greater or less quantity of blood at each confinement. With many of these women the second stage of labour is completed very rapidly, to which, in some degree, must be attributed the subsequent hæmorrhage; and hence we find that when this stage has been somewhat prolonged, from resistance to the expulsion of the child, the loss is generally less profuse.

Whenever it is known that a predisposition to hæmorrhage exists, it becomes, of course, most desirable to adopt such measures as may tend to prevent, or at least moderate, the expected discharge. There is no room for doubt but that much may be done in the way of prevention, if we get timely knowledge of what is likely to happen. The means available for this purpose (and those which have been employed in the Hospital) may be conveniently arranged under three heads: viz., first, such as are calculated to secure a tranquil state of the circulation at the time of delivery; secondly, judicious management of the second stage of labour; and, lastly, under certain conditions, the use of ergot of rye.

1. A quiet and tranquil state of the circulating system has always been regarded as most influential in preventing or arresting hæmorrhage, and this applies equally to the floodings of lying-in women, as well as the other forms of uterine hæmorrhage: hence it may be laid down as an axiom, that in proportion to the velocity and force of the circulation at the time of delivery, so must the contraction of the uterus be firm and complete, to resist the escape of blood from its vessels; and, for the same reason, it is plain that a degree of contraction sufficient for this purpose in a calm and unexcited state of the circulation, would, under opposite circumstances, prove wholly inadequate to secure the patient against the occurrence of flooding. Hæmorrhage, arising from this cause, has been very accurately described by Dr. Gooch, and also the mode of treatment which he found most successful in removing that particular condition upon which it chiefly depends; but, we think, the propriety of styling this a “peculiar form of hæmor-

rhage," as Gooch has done, may very justly be called in question; for though it possesses some features which distinguish it from the ordinary attacks of flooding (solely referrible to atony of the uterus), yet they are not sufficient to constitute any essential difference, or materially to affect the practice that is to be pursued for its suppression, once it has set in. It is almost unnecessary to enter into any detail of the treatment that should be adopted in order to ensure an undisturbed state of the vascular system at the time of parturition, particularly as Dr. Gooch's work, which every practitioner should possess, contains ample directions on this head. Suffice it, then, to say, that, during the latter weeks of pregnancy, the patient should be restricted to the mildest and most unstimulating food,—the bowels should be kept freely open,—and small bleedings should be practised if she be of a plethoric habit, or if the pulse at all indicate it. The rigid employment of these means will rarely disappoint us in effecting the desired object; but should the pulse still continue rapid, small doses of digitalis, alone, or in combination with a diuretic, may be cautiously exhibited, so as to lower the frequency of the heart's action. Let it not be forgotten, however, that hurry of the circulation may depend upon a weak, irritable state of the constitution, quite the opposite to that we have just been describing. In such a case as this (not a very unfrequent one in the upper grades of society) the depleting line of treatment would not at all answer, but, on the contrary, would rather tend to aggravate the evil we were endeavouring to remove.

2. The great influence which the management of the second stage has upon the subsequent progress of labour, both as regards the delivery of the after-birth and the occurrence of hæmorrhage, is now well understood and universally acknowledged by all accoucheurs of eminence. The very disagreeable, and oftentimes injurious, consequences which frequently resulted from the old method of conducting this part of the process, seem to have been first pointed out by Mr. Charles White, of Manchester.* To him,

* Treatise on the Management of Pregnant and Lying-in Women, &c., pp. 92, 107, 364. Fifth edit., London, 1791. The first edition appeared in 1773.

Dr. Osborne,* and Dr. Joseph Clarke,† the science of midwifery is indebted for establishing the admirable rules by which the practice in this stage of labour is at present regulated. These directions, upon which so much stress is laid, we have already spoken of, and they are now alluded to in order to insist upon the importance of a scrupulous observance of them, in all cases where there is reason to apprehend flooding after delivery. The value of the binder in such instances is also very great, but it should not supersede the pressure of the hand over the uterus, until the latter feels well contracted.

Upon our present subject Denman briefly observes: "When from former events there is reason to be apprehensive of hæmorrhage subsequent to the exclusion of the placenta, that has been altogether prevented, or very much lessened, by delaying the time of the patient's going to her bed till the child was upon the point of being born,—or even suffering it to be born while the woman sat upon the lap of one of her attendants." This passage has been severely, and, as it appears to us, justly criticised by Dr. Dewees. "Now," he writes, "we would ask any one at all conversant with the economy of the uterus during and after labour, how an erect position, and the sudden evacuation of the waters at the moment the child was about to be born, can possibly contribute to the only circumstance at all available in the case under consideration, namely, the permanent contraction of the uterus? In the first place, an erect position will always be attended with a quicker circulation than a recumbent one; it will permit the waters to escape with more suddenness and rapidity than a horizontal, and, consequently, the risk of atony must be increased." What he recommends is, to "rupture the membranes so soon as the labour is active, and the os uteri sufficiently dilated, or easily dilatable," in order to give opportunity and time for the uterus to contract before the child be expelled; and, secondly, "to diminish the force of the circulation as much as was practicable, by making the woman observe a horizontal position when the pains become urgent, and to interdict stimuli of every kind,

* *Essays on the Practice of Midwifery*, London, 1792.

† *Medical Report of the Dublin Lying-in Hospital*, *Transactions of the College of Physicians*, vol. i. Dublin, 1817.

as wine, or any other liquor, heat, and all unnecessary exertion." In the latter part of this advice we entirely concur, but as regards breaking the membranes we cannot speak from experience. The proposal, certainly, seems a rational one, and well calculated to promote the object in view, but should not be acted on, we think, without mature consideration, and taking all the circumstances of the case into account: it has, however, the sanction of Dr. Lee to recommend it.*

3. We have mentioned the administration of ergot of rye as a preventive of *post partum* hæmorrhage; and in the Hospital we have seen such decidedly favourable results from its use, when employed for this purpose, as to have no hesitation in pronouncing the practice to be both safe and efficient. With this intention it may be given at one or other of three periods: namely, when the head of the child is on the perinæum, and about to be expelled; or immediately after the head has cleared the os externum, and before the shoulders have passed; or, thirdly, so soon as the insertion of the cord into the placenta can be felt. "By giving ergot before the child has been expelled, some time may be gained; but should the placenta be morbidly adhering to the uterus, the difficulty of introducing the hand for its removal will be greatly increased. By adopting the third plan, this source of apprehension is avoided. To this method it may be objected that much time will, perhaps, elapse, and a considerable quantity of blood be lost, before the ergot is administered; nevertheless, the possibility of the placenta being morbidly adherent should be ever present in the mind of the practitioner, and deter him from resorting to a measure which may so greatly augment the danger of the complication."† Dr. Johnson, who introduced the practice into this Hospital, generally gives the ergot according to the mode last recommended. In certain instances, however, where from previous losses it was a matter of the utmost importance to prevent any further hæmorrhage after delivery, we have not scrupled

* Lectures, p. 401.

† Extracted from Dr. Hardy's paper on the Administration and Effects of Ergot of Rye, Dublin Medical Journal, May, 1845. Dr. Beatty has given a very instructive paper, recording his experience upon our present subject, in the Dublin Quarterly Journal of Medical Science, May, 1846.

to administer it in the second way spoken of above, and hitherto without any unpleasant effect. Here, as on every other occasion, we should be careful to use ergot of undoubted genuine quality, for otherwise its exhibition can be productive of no good, and will only cause disappointment. Few medicines so readily spoil, or are to be found of such variable quality; and this circumstance goes far, we think, to reconcile the conflicting opinions which have been entertained respecting its properties and doses.

Hæmorrhage between the Birth of the Child and the Expulsion of the Placenta.—Different causes, some the result of bad management, and others of an unavoidable nature, may give rise to hæmorrhage at this period. It is unnecessary to enter into an enumeration of these, as they are sufficiently well known; but, from whatever cause arising, the principles of treatment have been always the same, namely, to bring about contraction of the uterus, and, if the means adopted for this purpose failed in checking the flow of blood, to remove the placenta. In every case of hæmorrhage prior to the coming away of the placenta, the first object has been to grasp the uterus with the hand (or get a competent assistant to do so), and next to ascertain by careful examination whether the insertion of the cord was within reach or not, as this will materially affect the danger of the case. It not uncommonly happens that hæmorrhage at this period is internal, and that, where the attendant has not been sufficiently watchful, it goes on for a considerable time before being discovered. But such an occurrence is always reprehensible, and could not happen if a proper degree of vigilance was exercised. Having placed the hand on the fundus uteri, friction and slight pressure are to be made, and if the amount of contraction thereby induced be not sufficient to repress the hæmorrhage, it will be necessary to expel the placenta from the cavity of the uterus. In doing this the organ must be grasped firmly, and pressure exerted upon it in the axis of the brim of the pelvis. If the uterus have fallen to the left side, as not uncommonly happens, it must be raised into its natural position before commencing to exert compression upon it. It will also tend much to the success of the manipulation if it be performed during the presence of uterine action; indeed, we have sometimes been surprised at the ease with which the placenta was pressed off during a contraction of the uterus, where

previously it had withstood our best-directed efforts. These measures we have seldom found to fail in getting away the placenta, unless it be morbidly adherent,—or, at least, in bringing it to the os uteri within reach of the finger, which is almost the same thing, as its complete removal can then be effected at any moment without delay or difficulty. Perhaps it may be objected that this mode of removing the placenta exposes the uterus to injury, or may entail inflammation or other bad consequences: but without attempting to deny that such might be produced by violent or ill-directed efforts, or from their being continued too long, we can only say, that in no case have we observed the practice to be followed by any ill effects; and it must, we think, be conceded, that it is immeasurably safer to remove the placenta in this way than by introducing the hand for its extraction.

If the hæmorrhage cease when the placenta enters the vagina, it is permitted to remain there some time (unless the discharge should recur) as its presence is thought to stimulate the uterus to more permanent contraction, and to have an influence in diminishing the severity of subsequent after-pains. The loss of blood in some rare cases was so sudden and profuse that no time, in fact, was allowed for the employment of all these measures to get away the placenta, and in such instances the introduction of the hand had to be resorted to without delay, as being the most expeditious and effectual mode of removing the after-birth, and of exciting uterine action.

Hæmorrhage after the delivery of the Placenta.—This is almost always referrible to one cause, namely, an inadequate degree of contraction of the uterine fibres, arising from atony of the organ, or from its distention by clots, or a portion of the secundines; and in some rare cases from polypoid growths.* It is possible, also, for hæmorrhage to take place at this time in conse-

* Dr. Churchill mentions having met with two such cases. In one the hæmorrhage proved fatal in twenty-four hours, and in the other the woman recovered under the ordinary treatment for uterine hæmorrhage.—*Midwifery*, p. 394.

The late Dr. Beatty has recorded an interesting case where abortion took place in the third month, apparently in consequence of the presence of a large polypus growing from the interior of the uterus.—*Trans. Coll. Phys., Dublin*, vol. iv. Dr. Johnson was once present at the *post mortem* examination of a woman who had died of flooding after delivery, and in the uterus was found a large polypus growing by a very small pedicle.

quence of organic disease of the cervix or os uteri, or from inversion of the organ, but these are extremely infrequent occurrences. Hæmorrhage very rarely commences later than two hours after delivery; but a concealed hæmorrhage may be going on and escape detection until, perhaps, a much later period, and thus a mistake may originate as to the time at which the flooding actually began.

It sometimes happens that when there exists an over-excited state of the circulation, flooding will go on, though the uterus be tolerably well contracted; but the management of these cases (which we have before alluded to, under the name of "Gooch's hæmorrhage") is essentially the same as that of ordinary examples of flooding at this period. In addition to these, there are contingent circumstances which have some share of influence in occasioning loss of blood at this time, such as the rapid expulsion of the placenta after the child, the imperfect application of the binder, and, on the part of the patient, the non-observance of strict tranquillity and quietness. No example of acute *inversio uteri* has ever fallen under our notice, and "the accumulated experience of Drs. Clarke, Labatt, Collins, Kennedy, and Johnson, in this Hospital, does not furnish a single instance of the occurrence of this accident, though the number of women delivered during their united masterhips amounts to upwards of seventy-one thousand."*

In the treatment of hæmorrhage at this period, there are obviously but two indications to be fulfilled; one, to promote the contraction of the uterus, and the other, to sustain the powers of life by suitable stimuli. In accomplishing the first of these, various means are at our disposal, the chief of which are, friction and pressure over the uterus; the application of cold; the exhibition of ergot of rye; the use of electro-magnetism; and the introduction of the hand into the uterine cavity. Upon each of these we propose to offer a few remarks, suggested by what has passed under our observation in the Hospital.

The great importance of duly attending to the first of the means we have mentioned can scarcely be overrated, and it was the

* See "Report of two Cases of chronic *Inversio Uteri*," &c., Dublin Medical Journal, vol. xxvii.

established practice in the Hospital to keep up steady pressure with the hand over the uterus, so long as the disposition to hæmorrhage continued. This aids in diminishing the tendency to relaxation, and effectually prevents the accumulation of any coagulated blood in the uterine cavity. In doing it, there is generally no necessity to loose the binder; on the contrary, unless the case be urgent, it is far preferable to keep it tightly applied, as this helps to ward off the occurrence of syncope, which is always unfavourable to uterine action. After the flow of blood is completely arrested, the pressure of one or two pads may be substituted for the hand, if there exist any disposition to relaxation of the uterus. These are made by tightly rolling up a napkin or soft towel, folded in such a manner that its length may be four or five inches; they are placed directly over the fundus uteri, and retained in this situation by the binder. As this measure is usually productive of some discomfort to the patient, it is well to give instructions for the removal of the compresses after the lapse of five or six hours, or when all danger of hæmorrhage is over.

Cases frequently occur, where the hæmorrhage is kept up for a long time by the presence of clots in the uterus, but as soon as these are removed by a smart squeeze, all further discharge will be at an end. Hence, in every instance, it is well to assure ourselves at the commencement, that no such cause for the loss exists. In compressing the uterus for the purpose of extruding the placenta, or getting rid of coagula, it is important for the success of the operation to get the edge of the hand *behind* the fundus, and, grasping the organ, to press *downwards*, and slightly *backwards*. Where this is duly attended to, it will require little exertion, and a very trifling degree of pressure, to effect the desired object. We can confidently assert, that when the pressure is applied judiciously (as just described) it need not be by any means great, and has never been productive of more than momentary inconvenience to the patient; whereas, if the above precautions be not attended to, ten times the amount of force will be necessary to effect the same end, in consequence of which rude handling the uterus can scarcely fail of being injured in some way or other.

2. The application of cold as a means of exciting uterine contraction, deservedly holds next rank to that we have just been

considering. The mode in which it is usually employed is simply this; to dip a napkin or towel in water, as cold as can be procured, and, as the woman lies on her side, to dash it suddenly against the pudenda, nates, and sacrum. We quite agree with Dr. Lee that this method of applying cold is much less objectionable, and not less efficacious, than pouring water from a height upon the naked abdomen. At the same time that the cold dash is being used, firm pressure is to be made over the uterus, and the hand so employed should have its temperature as much reduced as possible by previous immersion in cold water. These applications are renewed as often as the exigency of the case may require.

But there are other ways in which the use of this agent is not only available, but positively beneficial. Thus, a large draught of iced water given at the commencement of an attack has occasionally seemed to be of service, by exciting contraction of the uterus; and an enema of cold water, plain, or what is better, with the addition of some red wine, we have frequently found of eminent utility in producing the same effect. This is only what might be expected from the proximity of the rectum to the uterus and sacral plexus of nerves. Of the practice of passing ice into the vagina, or throwing up cold injections into the womb, we cannot at all speak from experience, but Dr. Johnson entertains the most decided aversion to any such procedure. The utmost that was done in this way, was to introduce the corner of a napkin, moistened with vinegar and water, a short way into the vagina; whilst the possibility of any internal hæmorrhage was prevented by external pressure. This plan was sometimes advantageously resorted to in cases where a continued draining had gone on for a long time.

But whilst recommending the liberal use of cold for the suppression of hæmorrhage, we would, at the same time, express our conviction that, like other powerful remedies, it is capable of doing much harm if persisted in beyond certain limits. Some exercise of judgment, therefore, is necessary to know the period after which its application is likely to prove hurtful, and consequently should be suspended. When the active flow of blood has been arrested, and the patient is weak and faint, and complain-

ing perhaps, of general chilliness, with coldness of the surface, very little is to be gained from the continued free application of cold cloths; they even tend to reduce the powers of life to a still lower ebb. Under these circumstances we rest satisfied with merely keeping a wet sponge to the vulva, and trust to the hand over the fundus, and other means, for maintaining the uterus in a state of contraction. Much of the benefit derivable from the use of cold consists in the shock which it occasions; but, where it has been in use for some time, it is impossible to expect any effect of this kind to be produced by its further employment.

3. Ergot of Rye, when of good quality, is a most valuable acquisition to our list of remedies for the suppression of hæmorrhage, subsequent to the delivery of the after-birth, and in the Hospital we have seen it used very extensively for that purpose; but it was never employed in cases of hæmorrhage before the expulsion of the placenta, unless the latter was detached, and within reach of the finger. From fifteen to twenty grains was the dose usually given on these occasions, and the vehicle was cold water, or, if the patient were weak, port wine, or burned brandy and water. This dose was repeated in ten or fifteen minutes, if requisite. Experience has convinced us that, owing to its depressing influence, ergot is not admissible when the patient is much reduced. Hence, if her system has sustained a severe shock, or if symptoms of extreme debility be already present, ergot should not be administered. In cases of this description, the exhibition of ergot in the form of enema might, perhaps, be less disadvantageous than giving it by the mouth. So far as we have seen, this is the only objection to the universal employment of this medicine in the treatment of the species of flooding under consideration.

4. The introduction of the hand into the uterine cavity is considered by some authors to be a safe and efficient practice where atony is present and hæmorrhage going on in consequence. No doubt it is a powerful stimulus to the uterus; nevertheless, it is an operation which is dangerous in two ways: first, if the patient be extremely weak, it may extinguish life at the moment of its performance; or, secondly, if she survive the operation, and recover from the immediate effects of the flooding, she is very liable to be subsequently attacked with puerperal phlebitis,

especially if she be a patient in hospital. To know, therefore, the exact circumstances that would render it justifiable, is a matter upon which no positive rule can be laid down, as it must, in every case, be decided solely by the judgment of the practitioner. It is plain, however, that here, as in every other instance where artificial assistance is required, there are two evils to be guarded against. In the first place, the practitioner should be careful not to subject the woman to the operation needlessly; that is to say, unless he be well assured that the ordinary means are inadequate for the suppression of the hæmorrhage; and, on the other hand, equal caution is necessary not to defer the measure too long, else, if the patient be much reduced, it may prove ineffectual, or positively detrimental.

From the observations just made, which represent Dr. Johnson's opinion upon the matter, the reader may perceive that the introduction of the hand into the uterus for the suppression of hæmorrhage after the placenta, was by no means a favourite practice in the Lying-in-Hospital, and has been only very rarely had recourse to. This infrequency may also, in part, be accounted for by the prevalent practice of giving ergot at the onset of the hæmorrhage (in the manner before described), which, doubtless, in many instances, may have prevented the subsequent necessity for the above measure. Dr. Lee speaks in terms still more condemnatory of this practice. At page 399 of his Lectures he writes: "Nor do I consider it necessary, to excite uterine contraction, that the hand should ever be introduced into the cavity of the uterus after the removal of the placenta. I am fully convinced, from repeated observations, that this practice, which is so common as to be almost universal in this country at the present time, is often not only ineffectual for the purpose in the worst cases of flooding, but that it is often followed by the most pernicious effects; the coagula which nature had formed have been displaced by the hand, and the uterus has not been excited by the stimulus of it to secure a permanent contraction."

5. The use of Electricity has been only very recently made subservient to the purposes of practical midwifery. That certain forms of this agent are capable of exciting uterine contraction can scarcely admit of any doubt; but as yet the total number of in-

stances in which it has been used is very limited, so that it would be impossible to lay down any comprehensive or definite rules respecting the modes of applying it, or the particular cases to which it is best adapted. To Dr. Radford, we believe, must be awarded the honour of being the first who practically tested the value of electricity in cases of labour.* The instances wherein he had recourse to the employment of this agent were cases of hæmorrhage arising from presentation of the placenta.† A very short time subsequent to their publication, namely, in the month of February, 1845, an electro-magnetic current was employed in this Hospital as a stimulant to the uterus in a case of tedious labour, from complete inertia uteri, and with the most happy results both to mother and child. But, what more concerns our present subject, it was also had recourse to, about the same period, in two cases of flooding after the birth of the child and detachment of the placenta. In each of these it had the desired effect of bringing on firm contraction of the uterus, and entirely arresting the flow of blood. On all these occasions it was observed that the most efficient contractions were produced when the direction of the current was from the recto-vaginal septum to the sacrum externally, and this was accomplished simply by placing one of the conductors in each of these situations.‡ These facts we record simply as such, without attempting to deduce from them any definite rules of practice, so that it yet remains for future inquirers to assign to this agent its proper place as an auxiliary to obstetric practice. Even should electro-magnetism be

* Provincial Medical and Surgical Journal, December 24, 1844, p. 603, and vol. xi. of Braithwaite's Retrospect.

† It would appear that the particular kind of electric current used by Dr. Radford was the same as was employed here, namely, the electro-magnetic, although the Doctor entitles his paper "On Galvanism applied," &c. Towards the conclusion, however, of his essay, he distinctly states "that it was an electro-magnetic apparatus."

‡ In each of these instances the shocks were applied by Dr. Clarke, M. R. I. A., an eminent electrician of this city, and lately lecturer on chemistry in the Park-street School of Medicine. A very instructive and able memoir upon this subject, by Dr. Clarke, was read before the Dublin Obstetric Society, January 29, 1846, in which he detailed the full particulars of the above cases, and also of another, a case of tedious labour, in which he had successfully employed the stimulus of electro-magnetism for exciting uterine contraction.

found to be a powerful remedy in these cases, we fear that the time and trouble attending its use would prove insurmountable obstacles to its general employment, and would confine its utility to hospital practice.*

We have already stated that the second great indication which presents itself in the management of that species of flooding now under consideration, was, to counteract the immediate effects produced by the loss of so large a quantity of the vital fluid, and to support the patient's remaining strength by every available means. In the attainment of these objects, the treatment that was pursued in the Hospital does not differ in any essential particular from that usually recommended, therefore we need not enter at length upon the subject. On the first appearance of sinking or debility some stimulant was usually given (unless the circulation was hurried), and that generally preferred was a little port wine, or what is better, as being less likely to create acidity in the stomach, some burned brandy and water. The existence of a rapid pulse along with uterine hæmorrhage is a circumstance which always renders much circumspection necessary in the administration of stimulants, and generally requires that they be dealt out with a very sparing hand; for, as we have before remarked, this condition in itself tends materially to keep up the discharge, and therefore should not, if possible, be in any way favoured. In

* Mr. Dorrington, of Manchester, has published several cases in which he applied the stimulus of an electro-magnetic current for the purpose of increasing the energy of the uterine contractions, and with uniform success. In most of his cases, hæmorrhage before delivery was the circumstance which called for interference. Vide *Provincial Medical and Surgical Journal*, March 18, 1846, and the *Medical Gazette* for May 29, 1846. In the first number of the *Edinburgh Monthly Journal (New Series)*, Professor Simpson has related some cases where he tried the effects of electro-magnetism in increasing the parturient contractions of the uterus, and from these experiments he infers "that as employed at the present time, and in its present mode, it is not a means which can in any degree be relied on for the purpose in question, and is so far practically and entirely useless as a stimulant to the parturient action of the uterus."—p. 46. This, it will be seen, is wholly at variance with the conclusions to which Dr. Radford, Mr. Dorrington, Dr. Lever, Mr. Cleveland, and ourselves, have been led by the result of our respective observations. Cases of parturition wherein electro-magnetism had been used by the last-named gentleman, were mentioned by Dr. Golding Bird, in a "Lecture on Electricity and Galvanism in their physiological and therapeutical Relations," delivered at the Royal College of Physicians in March, 1847. *London Medical Gazette*, June 18, 1847.

these cases a most important indication is to tranquillize the over-excited circulation, or at least to withhold whatever might increase this state, and stern necessity alone should compel us to act otherwise. It is in cases of this description that the occurrence of syncope is so decidedly salutary. Hence we need not, under these circumstances, be over-anxious for its speedy removal, or be in haste to exhibit active stimuli, provided of course that there be not other more solid grounds for alarm. Some cold water, or sal volatile and water, has been the restorative usually employed on these occasions. Again, we have seen patients, who, with a very trifling hæmorrhage, lapsed nevertheless at intervals into a state bordering upon syncope, which was sufficient to excite uneasiness in the minds of the attendants, if not to menace danger. In one patient, who had valvular disease of the heart, this symptom was present in a very marked degree, and caused serious apprehensions for her safety, although there was scarcely any loss whatsoever. That symptoms of this kind should occur after delivery, in women suffering under organic disease of the heart, cannot be a matter of surprise, when we consider the sudden and great change which takes place in the circulation and system at large, consequent upon the act of parturition. It has more commonly happened that this disposition to syncope, without much accompanying loss, partook of an hysterical nature, and as such was not, of course, viewed with any feelings of alarm.

The symptoms which usually indicate the existence of imminent danger are, extreme feebleness of pulse, or its total absence at the wrist; pallor of the countenance; great prostration of strength; coldness of the extremities and surface; sighing; laborious respiration; restlessness and jactitation; vomiting; loss of consciousness, &c.* Besides these, the patient often complains of singing in the ears, want of air, or that she cannot see; and before death, con-

* We lately saw a patient who had hæmorrhage after a twin birth. The amount of loss, though profuse, was not, however, so great as to materially affect the pulse; nevertheless, this woman, before the flooding had been stayed, fell into a lethargic state, approaching to complete coma, from which it was impossible to arouse her sufficiently to get a coherent answer to any question. Within ten hours after delivery she had quite regained her consciousness, but was utterly oblivious of the circumstances that occurred during the hæmorrhage and afterwards.

vulsions sometimes take place. By the number or severity of these symptoms the danger is to be estimated.

It should be held as an inviolable rule, never to abandon a case of hæmorrhage so long as life remains; for it is astonishing out of what an apparently hopeless condition these patients may sometimes be recovered by the judicious and persevering employment of restorative means. Where the vital powers are reduced to a very low ebb, brandy and opium are the two remedies upon which most confidence is to be placed for combating the effects of the hæmorrhage, and sustaining the vital energies. Respecting the exact time for having recourse to the opium, it must be apparent that this will depend entirely on the object for which it is given, and the effects which we consider it capable of producing. An opinion is generally entertained that it possesses qualities which render it eminently useful in counteracting the immediate effect of excessive losses upon the system, and in supporting the vital powers under that debility which always follows inordinate flooding; but whether, or how far, its administration, pending the hæmorrhage, can have any influence in controlling it, does not seem to be so positively determined, though certainly the weight of authority is on the negative side. In the Hospital it was usually exhibited as soon as any alarming symptoms of prostration began to be developed; but these rarely arise before the violence of the hæmorrhage has been subdued, and some degree of uterine action induced. The presence of much restlessness or inquietude was looked upon as a prominent indication for giving this medicine, and we have seldom seen any benefit from the use of opium until it had allayed this symptom. The necessity for a repetition of the dose was also judged of by the pulse and general state of the patient. The quantity of opium taken under these circumstances was sometimes very great, much more than could have been borne with impunity by one in health. We have never observed, however, any unpleasant or evil consequence from the practice, except headach, which a cup of strong coffee generally relieved. Opium in the solid form (either the watery extract, powder, or crude opium) was of course preferred where the stomach was irritable; and where nothing could be retained on it, the starch enema, with laudanum or black drop, or an opiate suppository, was given. The

occurrence of vomiting is sometimes inconvenient and undesirable, though, as Denman has remarked, it is usually followed by a diminution in the hæmorrhage and general amendment of the patient's condition. The state of nausea immediately preceding the ejection of the contents of the stomach is very constantly accompanied by marks of increased exhaustion and failure of the pulse; but these symptoms, so calculated to mislead and terrify an inexperienced attendant, usually disappear when the fit is over, and are followed by considerable reaction, and a more permanent contraction of the uterus.

We have no hesitation in expressing our conviction that the administration of opium in desperate cases of hæmorrhage constitutes a most essential part of the treatment. Indeed there does not seem to be any remedy at all to be compared with it in point of efficacy for sustaining the vital principle under excessive losses of blood. "Where" (to use the graphic language of a recent writer), "after severe uterine hæmorrhage, the countenance is sunk, the eye hollow and glassy, the lips blanched, the skin cold, and the whole person corpse-like,—when the pulse is almost gone at the wrist,—when the beat even of the heart is scarcely perceptible, and stimulants, even brandy or rectified spirits, are either vomited or uninfluential,—there remains yet one remedy capable of restoring the patient to life, and that is opium."* When a slight draining has gone on for some time, and is a source of uneasiness more from its persistence than its severity, we have frequently found a full opiate to be of service; but it has always been ascertained previously that there was no accumulation of clots in the uterus, and effectual means have also been adopted to prevent the possibility of such taking place. This is to be done by the hand, or the careful application of pads beneath the binder and above the fundus uteri.

Whilst the above measures are being carried into effect, there are various subordinate matters which should always receive their due share of attention in every case of profuse flooding. Thus, the temperature ought to be kept up to the natural standard by the diligent application of warm jars and blankets to the extremities and body; the head should be placed low; strong beef tea or

* Medical Problems, by Drs. W. and D. Griffin.

chicken broth may be given in small quantities, as often as the patient will take it; and dry, well-aired linen or blankets should be gently put underneath and about her person. Making the woman comfortable in this way greatly tends to induce sleep, which is the very best restorative, and therefore should be encouraged by every possible means.

But after the first pressing emergency is over, much yet remains to be done before the patient can be considered in complete security from the direct effects of the hæmorrhage. In order to accomplish this end the most perfect quietness should be enjoined, and the room darkened, and at the same time she should be closely watched, so that, upon any re-appearance of sinking or of relaxation of the uterus, appropriate treatment may be adopted without a moment's delay. Neglect of these precautions may totally frustrate all our previous endeavours, and defeat the object for which we have expended so much care and toil.*

It is astonishing with what rapidity these patients recover

* The following highly interesting case will serve to illustrate the above observations. Julia Leeson, aged 21, was admitted into the chronic ward of the Lying-in Hospital, November 25, 1841, being, as she supposed, four months advanced in her first pregnancy. For a fortnight before coming to the Hospital she had been suffering from dyspnœa, and œdema of the face and extremities, and had also repeated discharges of blood from the uterus. On the day after admission her state was as follows:—the face and extremities still presented an œdematous appearance; respiration was hurried; some cough, but a careful physical examination of the chest detected nothing abnormal; pulse 90, and weak. The uterine tumour was on a level with the umbilicus, and felt to the hand less elastic than the gravid uterus generally does. She never had felt anything like foetal movements, nor could any audible sign of pregnancy be discovered. The breasts, she said, had undergone no change, nor did they present any characters that would favour the presumption of her being with child. The os uteri felt closed, its lips thick, and the cervix fuller than natural. As she had lost some blood daily for the last four days, she was bled to 10 oz., and was ordered some calomel with James's Powder, and to be kept perfectly quiet. From this time until December 3rd she continued free from any loss of blood, and was recovering her strength; but on the evening of this day very smart hæmorrhage took place, and floating in the blood discharged from the uterus were a number of hydatids. The application of vinegar and water napkins to the vulva restrained the discharge, and as she was restless and extremely weak one grain of opium was given her. The next day found her somewhat improved, but still she was excessively weak and feeble, insomuch that she was ordered to have wine, and chicken broth with isinglass dissolved in it. At 12 o'clock, noon, she was improperly allowed by the nurse to sit up in order to take a drink, whereupon she instantly fell back and expired. The heart and lungs were healthy, on examination *post mortem*. The interior of the uterus was occupied by a collection of hydatids, the largest of which was about the size of a pea. This

from the direct effect of such enormous losses of blood; but a sallow, chlorotic tinge in the complexion generally remains for a considerable length of time. There is commonly a slight acceleration of the pulse for some days after delivery, and severe head-ach is occasionally complained of, particularly when the patient assumes an upright posture. In a few instances, where this symptom was very prominent, and sufficient to prove a source of great bodily discomfort, comparative ease was obtained by the application of four or six leeches to the temples; and in one case of the kind epistaxis occurred, and an equally beneficial result followed this spontaneous depletion. As this treatment, however, is purely palliative, and not calculated to remove the cause of the evil, which it tends rather to increase, we should, if possible, avoid having recourse to it. It has been said by some authors that this cephalalgia may run into actual phrenitis; but we have never witnessed such a transition or even an approach to this affection. Patients seldom regain their colour, or entirely lose their head-achs, until they begin to go out into the open air. Tonics are of course at this time strongly indicated, and none of this class will be found superior to the sulphate of quinine.

Secondary Hæmorrhage.—We have met with a few examples of uterine hæmorrhage taking place some days after delivery, and to cases of this kind the above name is applied. Hæmorrhage at so late a period subsequent to parturition is a subject which has been passed over by the majority of writers on midwifery without receiving any distinct consideration; and hence we may infer that the occurrence is by no means frequent, a conclusion that is borne out by the experience of this Hospital. In none of the cases that we have seen was the actual amount of loss so great as to excite apprehensions for the patient's safety; though certainly in one case, from the frequent repetition of the attacks, the bodily strength was very much reduced, and the constitution seriously weakened.

mass was connected to the uterus by two layers of decidua,—a decidua vera and reflexa, to the latter of which the hydatids intimately adhered. No trace of an ovum could be detected, but in the left ovary was a corpus luteum, which, judging from the size of its central cavity, would seem to indicate that the date of conception, as stated by the patient, was the true one. This uterus is preserved in the museum at the Lying-in Hospital, and beautifully exhibits all the appearances above described.

There are different causes which may produce this accident. Thus it may depend on simple relaxation of the uterus, though this is rarely the sole cause; or, secondly, it may arise from the detention of a coagulum or some portion of the secundines. The presence of any foreign substance of this kind *in utero* is very apt to occasion hæmorrhagic discharge; nor is this the only bad effect to be dreaded from its retention, for phlebitis in some form is a frequent and, we need hardly add, a more dangerous consequence. Thirdly, premature exertion on the part of the patient, or excitement of the circulation, may also produce it. Fourthly, the hæmorrhage may be owing to the presence of polypus, or depend on some diseased state of the uterus itself. Lastly, the hæmorrhage might arise from a partial or complete inversion of the uterus.

In the treatment of Secondary Hæmorrhage the first obvious indication is to enjoin perfect rest and tranquillity of mind and body, and, if possible, to remove every cause of hurry or disturbance of the circulation. Besides this, the other general rules relating to temperature, position, and regimen, &c., must be rigidly enforced. The direct application of cold, though a powerful means for controlling uterine hæmorrhage of every form, is not, however, well suited to these particular cases, as inflammation of the womb might result from its employment. It was used only in some of the cases that occurred in the Hospital, and in these rather sparingly. The ergot of rye has been frequently tried, and found a valuable remedy. It was usually given in six-grain doses three times a day; but where the discharge had been profuse, fifteen or twenty grains were administered at once. Where the hæmorrhage was more of a passive kind, or manifested a disposition to recur, the sacrum was blistered. An abatement or complete cessation of the discharge generally followed this measure. Whenever there is any reason for suspecting the presence of a clot, or small portion of the placenta or membranes, in the uterus, a vaginal examination should be made, and the offending substance removed, if practicable, by gentle means, but violence in any degree would scarcely be warrantable. Hæmorrhage from this cause may not come on till after the fifth or sixth day. If the hæmorrhage persisted after putting in practice the above means, and that there were grounds for any serious alarm, plugging the vagina might be

had recourse to as a *dernier ressort*, particular care being at the same time observed to prevent the possibility of any hæmorrhage taking place internally. This practice was adopted in Cases 10 and 17. After the hæmorrhage had been in a great measure, or entirely, suppressed, an opiate was generally given, and with the best effects.

Secondary hæmorrhage is rarely, we believe, attended with any great danger to life, unless when it arises from the detention of a portion of the placenta, or from inversion. Under these circumstances the patient may sink from repeated losses of blood. The cases whose respective numbers in the general table are 10, 17, and 54, were examples of secondary hæmorrhage.

Fifty-six cases of hæmorrhage after the birth of the child occurred in the Hospital during the period embraced by this Report. We shall first give a brief summary of those cases where it took place *between the birth of the child and the expulsion of the placenta*. Their number was *thirty-one*, and in *three* of them the shedding continued after the removal of the placenta. In *ten* cases the flooding was so profuse as to excite apprehensions for the patient's safety; whilst in the remaining *twenty-one* the loss of blood, though immoderate, was not so great as to occasion the least alarm. The hæmorrhage set in immediately after the birth of the child, in *four* instances; and in a large number assistance became necessary within the first twenty minutes after delivery. In *twenty* cases the extraction of the placenta had to be effected by the introduction of the hand into the uterine cavity; and *five* of these women died, which were the only deaths that took place amongst the group of cases at present under review. *One* died of exhaustion, and *four* of uterine phlebitis. Their respective numbers in the general table are 2, 7, 9, 45, and 55. This strongly illustrates the observations we have already made respecting the danger of this operation in hospital practice.

In *twenty-five* cases the hæmorrhage occurred *subsequently to the expulsion of the placenta*. In *eight* of this number the loss was severe. The majority of the twenty-five were cases where the placenta came away speedily after the child, and was quickly succeeded by the hæmorrhage. *Two* of the women died, *one* from the effects of hæmorrhage, and the other of uterine phle-

bitis: their respective numbers are 11 and 32. We shall now narrate such of these cases as are deserving of particular notice. It is almost superfluous to state that the number prefixed to each is for the purpose of reference from or to the general table at the end of the chapter.

No. 1.—This woman had a quick and easy labour. Nine hours after delivery she was observed to be faint, and on examining the uterus it was found distended with a great quantity of clots. These were pressed off and cold applied, by which means a permanent contraction of the uterus was secured. She was able to go home on the eighth day.

No. 2.—This case is detailed amongst those of retained placenta, No. 1.

No. 3.—This woman had severe loss both before and after the placenta, and had to get large quantities of brandy and opium. Her child presented with the feet, and weighed 10½lbs. Convalescence was slow.

No. 4.—The hand had to be introduced for the placenta, which was morbidly adherent to the uterus. The case is recorded with those of retained placenta, No. 3.

No. 5.—Also a case of retained placenta, No. 5.

No. 7.—This woman was of a feeble, broken-down constitution, and had suffered from hæmorrhage in most of her previous confinements, though this was not discovered till after the commencement of the flooding, which took place immediately on the birth of the child. It was necessary, on account of the flooding, to extract the placenta with the hand. The loss she sustained was too much for her strength, and in four hours from the time of delivery she sank, in spite of every thing that could be done for her.

No. 8.—Had a very expeditious labour, the placenta following immediately after the child. The uterus very soon relaxed, and copious flooding ensued, which was restrained by giving ergot, and the plentiful use of cold water, both to the genitals above the pubis, and given as an enema. As soon as the hæmorrhage had been suppressed she got twelve drops of black drop.

No. 9.—This case will be found amongst those of retained placenta, No. 8.

No. 10.—The membranes had been some time ruptured, and

the funis prolapsed, when this patient came into the Hospital. Half an hour after the birth of the child the uterus relaxed, and the pressure applied to it expelled the placenta. This was followed by a slight draining, which was restrained by the ordinary means. During the day this passive hæmorrhage recurred two or three times, but was easily restrained. The next morning, she being then twenty hours delivered, a large clot was expelled from the vagina, and hæmorrhage set in again. As the uterus was not firmly contracted, cold was made use of, and a dose of ergot administered, but without success, and the loss went on slowly but continuously. An examination was made *per vaginam*, but nothing abnormal could be detected. The pulse was quick. As the patient was now extremely weak, and the hæmorrhage undiminished, plugging the vagina was resolved upon, and forthwith performed, every care being at the same time taken to prevent the possibility of internal hæmorrhage. A blister was also applied to the sacrum. By these measures the discharge was arrested, but so very weak was the patient, that brandy and opium had to be freely given her. Though the pulse continued rapid for some days, nevertheless she made a good recovery. The plug was allowed to remain in the vagina for twenty-four hours, when it was cautiously removed.

No. 11.—C. C., a large but not strong-looking woman, admitted December 13, 1842, and delivered on the same day. This was a twin case, and the labour was very rapid. The first child was expelled in its membranes, and the placenta along with them. Some clots followed, and as soon as the binder was applied the second child was expelled, succeeded by its placenta. Immediately a torrent of blood began to gush from the vagina, and at once sunk the patient to the lowest ebb. The application of cold in every way, and pressure, were promptly resorted to, together with the administration of brandy, and all failing to bring about contraction, Dr. Johnson introduced his hand into the uterus; but this also proved ineffectual. No attempt, even, at contraction could be induced, and, as may be supposed, the patient expired in about half an hour after the birth of the second child. A *post mortem* examination was made, but there was no unusual appearance, except the great size and flaccidity of the uterus.

No. 15.—There was nothing particular occurred during this woman's labour; but, five hours afterwards, a considerable loss took place. It was subdued by the use of ergot, cold, and pressure, &c. Before admission, she had been suffering from sub-acute rheumatism.

No. 17.—Delivered April 2, 1842, at mid-day. This woman had a good labour. After the expulsion of the placenta, which came away in twenty-five minutes, there was a slight draining, but it entirely ceased upon tightening the binder, and applying a wet napkin to the vulva. In the afternoon she had a return of the hæmorrhage, but it was very slight, and yielded to friction and cold. She remained quite free from all discharge until the following morning, when, on making some exertion, the hæmorrhage broke out afresh. The usual means were now employed, such as ergot, friction, cold, &c., but without avail. There was only one remedy left, and that was the tampon. To its employment there was the less objection, from the uterus being pretty firmly contracted. The vagina was accordingly plugged (the usual precautions being adopted against internal hæmorrhage), and this effectually put a stop to all further loss. The pulse continued quick for several days, and she suffered considerably from headach. Except these, there were no other unpleasant symptoms, and she recovered perfectly.

No. 19.—In this case the funis presented, and the placenta was retained. Its history will be given along with the cases of retention of the after-birth, No. 13.

No. 21.—This was a case of tedious labour, and the placenta was retained from inertia. For further particulars we refer to No. 14 of the table of cases of retained placenta.

No. 22.—Recorded with the cases of retained placenta, No. 16.

No. 24.—Ditto, ditto, ditto, No. 17.

No. 25.—Ditto, ditto, ditto, No. 18.

No. 26.—Ditto, ditto, ditto, No. 15.

No. 27.—Ditto, ditto, ditto, No. 19.

No. 30.—Ditto, ditto, ditto, No. 27.

No. 32.—E. C., was delivered of her first child May 28, 1844. A considerable quantity of hæmorrhage followed the placenta.

It was suspected at the time that the attending pupils had used some interference in the removal of the placenta, as it exhibited an unusual appearance, and seemed to be in part deficient. She was rubbed in with some mercurial ointment the same night by way of precaution.

Fourth day, *Vesperé*. The only unfavourable symptom that has hitherto been present is rapidity of the pulse, which has never been under 104 since delivery, and is now 116. Much uterine tenderness this evening; respiration hurried; a small bit of placenta came away in the lochial discharge to-day.

Bled to faintness, which ensued when 14 ounces had been abstracted.
To have three grains of Calomel and an anodyne draught.
To continue the mercurial frictions.

Fifth day. Pulse 120; abdomen somewhat tympanitic; uterus tender on deep pressure; diarrhœa; thirst; very abundant red lochial discharge.

Stop the pills, but continue the frictions.
One grain of Digitalis, and
Three grains of Dover's Powder thrice daily.

Sixth day, *Vesperé*. A large clot was discharged with the lochia; is constantly perspiring; no appearance of mercurialization; diarrhœa still present; scarcely any milk.

To have an anodyne draught and one grain of Opium, if the bowels should continue to act.

Eighth day. Pulse 120; much diarrhœa; a small piece of putrid placenta came away this morning; no uterine tenderness.

Gets two drops of Prussic Acid and five of Black Drop three times in the day.

The frictions have been discontinued.
A blister to be applied to the abdomen.

Ninth day. Pulse 136; rested well till 4 o'clock, when the bowels were moved, and she got so weak that it was necessary to give her some wine; at 8 o'clock had a rigor; is very pale and

exsanguine; complains of nothing but weakness; tongue dry and yellowish.

Continue draughts.

To have some chicken broth and wine.

Tenth day. Was quiet during the night, but more in a state of stupor than of natural sleep; pulse 126; respiration laboured; breath has a very disagreeable, cadaverous smell; diarrhœa still continues. In the evening the pulse was 140, and not weak; she lay in a lethargic state, but when addressed, replied correctly. She died on the following night.

Autopsy, fourteen hours after death.—No trace of peritonæal inflammation. *Uterus* large; upon cutting through the right broad ligament, a quantity of purulent matter escaped. In each Fallopian tube was an irregular, uncircumscribed abscess of considerable size, and containing unhealthy, greenish pus. Throughout nearly the entire substance of the uterus pus was found in considerable quantity. The interior of the organ was black, and in a sloughy condition. Adhering to the fundus was a bit of placenta, about the size of a hen's egg.

This was obviously a case of pure phlebitis, produced by the detention and subsequent putrefaction of a bit of placenta. The symptoms were tolerably well marked, although she had only one rigor. We have already alluded to the liability of phlebitis taking place, where a portion of the placenta is left behind in the uterus, and this case is a good example of such an occurrence.

No. 36.—For the particulars of this case see No. 22 of the "retained placenta" table.

No. 39. Twins; first, a boy, which presented naturally; second, a girl, which presented with the breech. Severe hæmorrhage set in after the birth of the second child; the placenta of the first came away with pressure, but that of the second had to be manually extracted. See No. 23 of the table of cases of retained placenta.

No. 41.—Retained placenta. See table, No. 24.

No. 45.—In this case there was a complication of evils. The labour was very tedious, the pelvis was deformed, and the child presented with the breech. These latter circumstances rendered delivery a matter of extreme difficulty, even though the perfo-

rator and crotchet were used. Hæmorrhage subsequently came on, requiring the hand to be introduced for the placenta. The detailed account of this case is given along with the breech cases, No. 93.

No. 47.—In this case manual extraction of the after-birth had to be performed. Its history will appear amongst the cases of retained placenta, No. 26.

No. 49.—This patient sustained great loss. As the placenta was retained, her case will appear in that table, No. 9.

No. 50.—Had a quick and easy labour. The placenta came away in twenty minutes. Immediately after this event a very copious flooding took place, and was met by prompt and decisive treatment. Twenty grains of good ergot were administered on the instant; the uterus was grasped with the hand, whilst napkins dipped in cold spring water were dashed against the genitals, and a pint of cold water was thrown up the rectum. By these energetic means contraction of the uterus was speedily induced, and put an end to the hæmorrhage. After she had recovered the effects of the first shock, a full opiate was given her. Her convalescence proceeded without interruption.

No. 51.—In this case, also, the hæmorrhage followed the expulsion of the after-birth. It came on suddenly and profusely, but was arrested by the same means as were used in the last described case.

No. 54.—This patient had a short and easy labour; the placenta came away in twenty minutes, and no hæmorrhage preceded or accompanied its expulsion. For the first three days she suffered from after-pains, and the lochial discharge was rather abundant. On the fifth day she complained of some uterine pain and tenderness, for which merely a bran poultice was applied, as there was no other unfavourable symptom present. This quite removed the pain, and she appeared to be getting on most satisfactorily until 8 o'clock in the evening of her seventh day, when considerable internal hæmorrhage took place, so as to distend the uterus until its fundus reached midway between the pubes and umbilicus. Pressure and friction were made over it, and a large quantity of partially coagulated blood was expelled. Soon afterwards all discharge ceased, and the uterus contracted firmly, but she was very faint from the loss of blood. This patient did not get any ergot

of rye, as there was none at hand when the flooding occurred. As soon as the hæmorrhage was completely suppressed, a blister was applied to the sacrum, with a view to prevent a recurrence of the accident. She was not considered in a fit state to leave her bed for a week after this, as the pulse was very rapid. It gradually, however, subsided to the natural standard. Severe head-ach was a symptom also present, and gave her a good deal of uneasiness. She left the Hospital within three weeks from the time of her confinement.

No. 55.—For the particulars of this case, see table of “Retention of the Placenta,” No. 10.

No. 56.—This was a case of tedious labour (see the tedious cases, No. 27, page 121), and delivery was effected by the perforator and crotchet. After the expulsion of the placenta, which came away in the usual time, there was a considerable amount of loss, and to restrain this the usual means had to be actively employed.

TABLE I.

This shews the duration of labour in the different cases: thus, two women were half an hour ill; three were one hour; and so on.

Number of Women,	2	3	7	5	10	4	4	5	1	2
Hours in Labour,	$\frac{1}{2}$	1	2	3	4	5	6	7	8	10
Number of Women,	1	1	1	1	4	1	1	2	1	
Hours in Labour,	12	14	18	24	30	36	37	48	72	

TABLE II.

This is intended to shew the number of labours each woman had: thus, fifteen were first labours; ten were second labours; and so on.

No. of Women,	15	10	6	9	4	4	3	1	1	1	1	1
No. of Pregnancy,	1	2	3	4	5	6	7	8	9	10	11	13

TABLE III.

This is the "General Table" before referred to, of all the cases of hæmorrhage after delivery. It requires no explanation, as most of the columns have the same titles as in the previous tables, and of the others the headings are sufficiently intelligible.

Number of Case.	Age of Patient.	No. of Pregnancy.	Hours in Labour.	Sex of Child.	Alive or dead.	Between birth of Child and expulsion of Placenta.	After delivery of Placenta.	Result to Mother.	Observations
1	30	4	2	B.	1	..	1	R.	V.
2	40	13	4	B.	1	1	..	D.	V.
3	23	1	10	G.	1	1	..	R.	V.
4	28	6	1	G.	1	1	..	R.	V.
5	25	3	2	G.	1	1	..	R.	V.
6	26	1	24	B.	D.	1	..	R.	
7	36	9	6	B.	1	1	..	D.	V.
8	24	1	1	G.	1	..	1	R.	V.
9	30	1	4	B.	1	1	..	D.	V.
10	28	1	5	B.	D.	..	1	R.	V.
11	30	4	$\frac{1}{2}$	G. G.	2	1	1	D.	V.
12	25	2	18	B.	1	1	1	R.	
13	25	4	2	G.	1	..	1	R.	
14	37	5	30	B.	1	..	1	R.	
15	25	3	4	G.	1	..	1	R.	V.
16	37	11	4	G.	1	1	1	R.	
17	27	5	6	G.	1	..	1	R.	V.
18	30	6	3	B. G.	2	..	1	R.	
19	30	2	7	G.	D.	1	..	R.	V.
20	27	1	36	B.	D.	..	1	R.	
21	28	1	30	B.	D.	1	..	R.	V.
22	25	3	7	G.	D. p.	1	..	R.	V.
23	31	6	4	G.	1	..	1	R.	
24	30	2	10	G.	1	1	..	R.	V.
25	28	3	4	G.	1	1	..	R.	V.
26	28	3	2	B.	1	1	..	R.	V.
27	22	1	12	B.	1	1	..	R.	V.
28	26	4	1	B.	1	..	1	R.	
29	28	2	4	G.	1	..	1	R.	
30	22	2	48	G.	1	1	..	R.	V.
31	38	4	3	G.	1	1	..	R.	
32	29	1	6	G.	1	..	1	D.	V.

Number of Case.	Age of Patient.	No. of Pregnancy.	Hours in Labour.	Sex of Child.	Alive or dead.	Between birth of Child and expulsion of Placenta.	After delivery of Placenta.	Result to Mother.	Observations.
33	26	4	5	B.	1	1	..	R.	
34	32	5	8	G.	1	..	1	R.	
35	35	8	3	G.	1	1	1	R.	
36	26	2	4	B.	1	1	..	R.	V.
37	21	1	5	G. B.	2	..	1	R.	
38	28	1	37	B.	1	1	..	R.	
39	36	10	$\frac{1}{2}$	B. G.	2	1	..	R.	V.
40	22	2	7	B.	1	..	1	R.	
41	28	4	3	B.	1	1	..	R.	V.
42	30	7	7	G.	1	1	..	R.	
43	27	3	7	B.	1	..	1	R.	
44	25	4	3	B.	1	..	1	R.	
45	27	1	48	G.	D.	1	..	D.	V.
46	34	7	30	G.	1	..	1	R.	
47	26	1	5	B.	1	1	..	R.	V.
48	18	1	14	B.	1	1	..	R.	
49	27	5	6	B.	1	1	..	R.	V.
50	22	2	2	B.	1	..	1	R.	V.
51	27	4	2	G.	1	..	1	R.	V.
52	28	6	2	G.	1	1	..	R.	
53	32	2	30	G.	D.	..	1	R.	
54	28	2	4	G.	1	..	1	R.	V.
55	30	7	4	G.	1	1	..	D.	V.
56	24	1	72	G.	D.	..	1	R.	V.

Retention of the Placenta.—The introduction of the hand for the placenta is very justly regarded by all well-informed practitioners as an operation of no trifling importance, and one that should by no means be performed, unless from a well-grounded conviction of its imperative necessity. In private practice it is much less frequently productive of bad results than amongst hospital patients; nevertheless, this should never tempt one to have recourse to it a moment sooner than the accompanying circumstances would justify. The great danger to be dreaded after this operation is uterine phlebitis; at least, such is the conclusion to which our experience leads us. It is a very unfortunate coincidence when manual extraction of the placenta is required after a tedious or

instrumental labour, as it detracts considerably from the patient's chance of recovery. Of all the causes necessitating artificial removal of the placenta, morbid adhesion is, perhaps, the most unfavourable; for not only is there much difficulty in the operation, but the remote consequences are more perilous. Certainly, those cases where inordinate flooding demands its manual extraction, are equally, if not more dangerous at the time, but we question whether the ulterior consequences are as injurious or fatal. Out of all the cases (amounting, probably, to upwards of 200) in which we have seen ergot of rye given before the birth of the child, there has been only one instance where the after-birth was not expelled by the natural efforts, aided occasionally with external pressure on the uterus, and in this solitary case it was retained from inertia.* Had there been, however, a morbid adhesion of the placenta in any of these cases, it is more than probable that the difficulty of detaching and bringing it away would have been increased by the previous exhibition of the ergot.

It is usual to wait for two hours (unless hæmorrhage come on in the mean time) before using active interference for the extraction of the after-birth. Dr. Lee expresses his opinion that if "at the end of an hour it is not detached from the uterus and expelled, it should be withdrawn artificially."† Now, if we were always cognizant of the exact cause of retention, it might be well to act on this advice in one class of cases, viz., those where the placenta is unnaturally adherent to the uterine wall. Such precision, however, is, unfortunately, not attainable, and the real cause of retention can, at best, be only a matter of conjecture until the hand has entered the uterine cavity. Besides this, we have on many occasions succeeded in getting away the placenta after the lapse of an hour and a half, or two hours, without introducing the hand, although previously this alternative had appeared unavoidable.

By glancing at the table appended to this section, the reader will perceive that there is only one instance (No. 7) in which hour-glass contraction of the uterus was the cause of the placenta being retained. This fact, upon the accuracy of which

* This case is No. 21 in the general table of "Cases of Retention of the Placenta."

† Lectures, p. 404.

every reliance may be placed, affords strong evidence in favour of the doctrine promulgated by Dr. John C. Douglas, that "a placenta has rarely, if ever, been primarily retained by this cause,"—*i. e.*, hour-glass contraction.* "If this position be correct," he continues, "it naturally follows that the occurrence of this hour-glass contraction should only be considered as a secondary cause of detention, its formation being merely the result of the undecided manner in which the practitioner introduces, or attempts to introduce, his hand, with the intent to extract a placenta that had been retained by one of the other two causes, which I might denominate primary causes." Dr. Johnson's opinion on this matter coincides with that expressed by Dr. Douglas, and our own experience, also, entirely corresponds with the same. It is very likely that the scrupulous attention here paid to the application of the binder, and also the practice of keeping a steady pressure on the uterus whilst the child is being expelled, and afterwards, must tend materially to lessen the frequency of retained placenta, by preventing irregular contraction, or inertia, of the organ.

Some authors have recommended the administration of Ergot of Rye (though chiefly, it would appear, on theoretical grounds) in cases where the placenta is retained from inertia. But in the Hospital it was the invariable practice, only deviated from in certain cases of abortion, never to exhibit this medicine to any patient in the third stage of labour until the placenta had come away, or was completely detached, and lying in the os uteri or the vagina. The reason for laying down this rule is, the impossibility of diagnosing in each instance the precise cause of retention; for though we do not deny but that where the placenta is retained from inaction of the uterus the ergot might be advantageous, yet were its retention owing to an abnormal adherence, this medicine, as has been already remarked, would only aggravate the circumstances of the case.

The pathology of the process by which this morbid union takes place between the maternal surface of the placenta and the uterus, is well deserving of investigation; for, though not a common occurrence, yet it is one which involves such very unpleasant, and too often fatal, consequences, that any discovery which might suggest means for its prevention would prove a valuable

* Transactions of the Royal College of Physicians, London, vol. vi.

accession to obstetric knowledge. We wish it was in our power to throw some additional light upon the point, but, unfortunately, we can contribute little to what is already known. The bond of union between the opposed surfaces thus abnormally cohering, generally presents characters in no way distinguishable from those of lymph; at other times it is of a cartilaginous nature; and, in some cases, laminae of calcareous or osseous matter have been observed upon the uterine aspect of the placenta. On several occasions we have closely interrogated patients who suffered from this complication, whether they had experienced anything peculiar during their pregnancy, but the most that could be elicited, and this from a few only, was, that they had felt pain and soreness in one part of the uterine tumour (corresponding to the site of the placenta) during a certain period of utero-gestation. Two or three of them ascribed their symptoms to external injuries. Whatever may be the precise cause of these adhesions, there can be little doubt but that an inflammatory process very frequently attends their formation, and, in all probability, conduces to increase the evil. Hence, whenever a pregnant woman presents herself with localized pain or tenderness of the uterus, the first inquiry is to ascertain with the stethoscope whether the painful part be over the attachment of the placenta, as, in that case, the prognosis should be more grave, and the curative measures more prompt and active.

The general rules for performing the operation of manual extraction of the placenta are so clearly laid down by most systematic writers as to leave little room for anything further on the subject; we shall, therefore, merely offer some few remarks. As of turning, so it may be said of this piece of manipulation, that the most perfect coolness and patient perseverance are inestimable qualities in the operator, and will contribute more to his success in difficult cases than pages of instructions or directions could do. The right hand we have always used, but, nevertheless, think that where the placenta is attached in front, the left hand would be more convenient, if the accoucheur possess the same strength and power with it as the other. Having got the hand fairly into the vagina (taking the funis as our guide to the placenta), the next thing is to pass it through the cervix with as little delay as possible. It is of importance to attend to this, and not to irritate the fibres of

the os by detaining the hand there a moment longer than is absolutely necessary. Dr. Douglas, in his paper before alluded to, also enjoins this rule. He writes: "In those few cases of unavoidable retention of the placenta, wherein it may be necessary for the accoucheur materially to interfere, he should, having first cautiously inserted it within the vagina, push his hand briskly up to the very fundus of the uterus." This is the first step in the operation; the next is to detach the placenta, if still adhering to the uterus. Should there be a close or morbid union between the two, this part of the proceeding will require considerable time for its performance, and will have to be conducted with extreme caution and gentleness. Throughout the whole operation, but particularly during this stage, it will be found highly advantageous to have the uterus kept steady by external support. This can be given by an assistant, or, what is better, by the disengaged hand of the operator, who can then make both hands act in concert, which will give him more power, and materially facilitate the accomplishment of his object.

Having completely separated the placenta, the third and last step of the operation remains, namely, to withdraw it and the membranes entire. To effect this very desirable end, the whole placental mass, and not merely a part, must be surrounded and grasped with the hand, as it is not of sufficient firmness or tenacity to bear any degree of traction, without laceration. Whenever we attempt to bring away the placenta by dragging it, a portion is sure to be left behind, the detention of which may give rise to very disagreeable, or even dangerous consequences, such as hæmorrhage, or phlebitis, &c. Hence it is a point of paramount importance to remove the after-birth unbroken, and this is most certainly effected by following the plan just mentioned, viz., of including the whole placenta within the grasp of the hand. A second point to attend to in this stage of the operation is to withdraw the hand very slowly and gradually. When it has reached the cervix (seldom sooner) the expulsive action of the uterus will be felt, and should be solely allowed to complete the evacuation of the organ. Throughout all the stages of this troublesome operation the greatest coolness and deliberateness are required; and though one is naturally anxious to bring it to a

conclusion as quickly as possible, and so to abridge the patient's suffering, yet it should be remembered that the hasty removal of the after-birth may entail infinitely worse consequences than its slow but careful extraction. Here, as on all other occasions, present comfort should give way to future safety.

When withdrawn, the placenta should be laid on a flat surface, with its maternal side uppermost, and examined, to ascertain whether any portion may have been left behind. From the great liability of phlebitis following upon the manual extraction of the placenta, it has been usual in the Hospital to commence a mild mercurial course with these patients immediately after delivery. Upon the first appearance of any bad symptoms this was followed up with increased activity; but should nothing unfavourable occur by the third day, the mercurial treatment was omitted.

During the period of this Report, *twenty-eight* cases occurred in which the hand had to be introduced for the removal of the placenta. In *sixteen* cases the retention arose from want of proper uterine action, in *eleven* from morbid adhesion of the placenta to the uterus, and in *one* from hour-glass contraction. In *nineteen* cases there was more or less hæmorrhage, and in *four* instances delivery was forced. *Twenty* of the children were born alive, *five* were born dead, and *four* putrid. *One* was a twin case. *Thirteen* of the children were boys, of whom eleven were born alive; and *sixteen* were girls, of whom nine were born alive. *Ten* of the twenty-eight women died, *one* of exhaustion, and *nine* of puerperal fever in some form: of these nine, uterine phlebitis existed in five. Many of the above cases have been included amongst the cases of "Hæmorrhage after Delivery," and have appeared in that table; five of the deaths also therein contained were cases of retained placenta, and, therefore, as a matter of course, are again enumerated along with the other cases of this complication.

Let us now proceed to the narration of the cases.

No. 1.—After the delivery of the child she had internal hæmorrhage, requiring the introduction of the hand for the removal of the placenta, which was found morbidly adhering to the right side of the uterus. She was put on the use of mercury from the time of delivery, nevertheless bad symptoms became developed, and she died on the seventh day, apparently of phlebitis.

No. 2.—After delivery the uterus did not contract well, and in an hour and a half it was found very large, and when compressed a great quantity of clotted blood came away, but not the placenta, which, on the introduction of the hand, readily peeled off from the uterus. She was considerably reduced in strength, and required a plentiful allowance of wine. On the day following she was very well, and the pulse was only 84, nevertheless the mercurial treatment was commenced.

Third day. Pulse 128; tongue white; diarrhœa; belly tympanitic; great tenderness over the region of the uterus.

Bled to 12 oz.

Internal use of mercury suspended.

Some Dover's Powder exhibited.

This rapidity of pulse and diarrhœa continued, and on the fifth day severe cough was superadded to the number of her symptoms. On the seventh day she had a prolonged rigor. On the eighth day there was great dyspnœa, with much cough; pulse 150; countenance pale and anxious. In the evening she got pains in the left side. Died on the morning of her ninth day.

Autopsy.—External surface of *uterus* vascular; some deposit of lymph at the left side, glueing together the uterus and colon. The interior of the organ was a mass of slough; large quantities of pus in the sinuses; in the left *pleura* was a pint of serum, and flakes of lymph which adhered to the lung; the right *lung* was universally adherent to the pleura, and in its lower and posterior lobe there existed a large, irregular cavity.

The chest affection in this case may be legitimately regarded as a consequence of the phlebitis. The cavity which was found in the lower part of the right lung appeared to be the sac of an abscess, whose contents had probably been discharged with the expectoration. In many cases of uterine phlebitis we have observed pulmonary symptoms to arise during the course of the disease, so that they would appear to be sequelæ of not unfrequent occurrence. On examining these patients after death we have found either pleuritis with effusion, or bronchitis, or pulmonic inflammation, or sometimes these morbid appearances existed conjointly. In one case (No. 37 of the Hæmorrhages before Delivery, page 208), the lower part of the lung was studded with small globular

tumours, which appeared to be nothing more or less than incipient lobular abscesses, as the interior of each was occupied by purulent matter.

In reference to the formation of these lobular abscesses, Hasse observes: "The best authorities have repeatedly asserted that these collections are not at once purulent at the outset, but that knots form, of from the bigness of a pea to that of a walnut, become infiltrated with coagulated blood, and eventually suppurate. I have had opportunities of convincing myself of the correctness of this fact with reference to the lungs, the liver, and the spleen."*

No. 3.—After the birth of the child some hæmorrhage took place, which was restrained by cold and pressure. At the expiration of two hours the placenta was still in the uterus, and as the ordinary means failed to effect its removal, the hand was introduced: it was found to be morbidly adherent. This woman recovered satisfactorily.

No. 4.—This was a case of tedious labour, and is the first one detailed under that head. She was attacked on the second day with rigor, followed by abdominal pain and fever. On the fourth day she had another rigor, and on the fifth she expired. Diarrhœa was present during the last two days, and obliged the internal use of mercury to be stopped.

Autopsy.—There was considerable serous effusion into the abdomen. The exterior of the *uterus*, in common with the rest of the peritonæum, was vascular. Upon dividing the broad ligaments quantities of purulent matter exuded.

No. 5.—This woman in her two former confinements had twins, so that the present was her fifth child. On each of these occasions, as well as the present, the hand had to be introduced for the removal of the after-birth. Though adhering to the uterus it was not morbidly so, as it was detached with the greatest ease. On the second day there was some uterine tenderness which caused alarm; it subsided, however, under diligent stuping and the use of mercurials. She left the Hospital on her thirteenth day.

No. 6.—This case has been detailed with the cases of hæmorrhage after the birth of the child (No. 7).

* Pathological Anatomy, p. 22.

No. 7.—This was a premature confinement, the woman being not eight months advanced in pregnancy. Considerable difficulty was offered to the introduction of the hand, owing to the existence of hour-glass contraction of the uterus, but by patience and steady perseverance the obstacle was overcome. This was the only case during the period of our Report where retention of the placenta arose from irregular contraction of the uterus.

No. 8.—Some hæmorrhage took place after the child was born, and, all attempts at pressing off the placenta proving ineffectual, the hand was introduced. It was easily separable from the uterus, and was withdrawn unbroken. On the evening of the second day she began to complain of pain over the uterus, for which she was stuped. At 9 o'clock she got a rigor.

Third day. Pulse 120, and sharp; pain at the umbilicus; lochia pale and scanty; is delirious occasionally.

Mercurial inunction thrice daily.
Hirudines xxx. to the abdomen.
Calomel, grs. v., and
Opium, gr. i., at bed-time.

Fourth day. Pulse 104; abdomen less painful; some slight appearance of ptyalism.

Fifth day. Had three rigors last night; one at 11 o'clock, another at 2, and the last at 5 o'clock; pulse 132, and irritable; tongue coated; profuse perspiration; lochia pale.

To continue the mercurial frictions, and pills, every three hours.

Sixth day. Slept; pulse 128; pain in the epigastrium, but nowhere else; no sign of lacteal secretion; complains of violent headach.

To continue her medicines.

At 3, P. M., she had a rigor, which came on shortly after a mucous evacuation from the bowels.

Seventh day. Passed a restless night; belly tympanitic; no lochial discharge. She was put into a warm bath to-day, but was not allowed to remain long in it, as she became very weak.

Eighth day. Her mouth is very sore, but there are doubts as to whether it is the result of the mercury. Pulse rapid and weak.

Ninth day. Belly full; pulse 140; complains of a burning sensation in the stomach; pain on making pressure over the uterus. She died this evening at 9 o'clock.

Autopsy.—A small quantity of yellow serous effusion in the cavity of the abdomen. *Uterus* large. Upon making a longitudinal incision into its interior, an unexpected anomaly presented itself. The cavity of the organ was incompletely divided into two chambers, of unequal size, by a septum growing from the fundus uteri. The larger of these was on the right side, and in it the placenta had been situated. At the time of its extraction nothing unusual was felt, to give rise to the suspicion of the existence of this peculiar conformation; this may partly be accounted for, perhaps, by the state of complete relaxation in which the uterus was at the time. Having made the one incision into the uterus, its further examination was not followed up, through reluctance to injure or mutilate it in any way. There can be little doubt, however, but that uterine phlebitis existed. The preparation of this uterus is preserved in the museum at the Lying-in Hospital.

No. 9.—In this case there was a considerable amount of loss before the hand was introduced. The placenta was found partially detached. The patient was much reduced, and required the frequent administration of stimulants, and close attention for some hours. However, she recovered most favourably, and was able to leave the Hospital on her ninth day.

No. 10.—This woman, before coming to the Hospital (April 4, 1843), met with a fright, which brought on some hæmorrhage. The membranes were, on admission, found ruptured, and there was a slight sanguineous discharge, which yielded to the application of cold, with confinement to the horizontal position. Her strength was at the same time supported by appropriate means. In four days labour set in, and lasted four hours. In about five minutes after the birth of the child, the uterus became relaxed and filled with blood. Pressure not succeeding in evacuating

it, the introduction of the hand for the placenta was required, but so very indolent was the uterus that it would not contract upon the hand, until cold was applied over it externally. She seemed very much reduced after the operation, insomuch that brandy and opium had to be exhibited. On the evening of the second day she had a slight chilliness, scarcely amounting to rigor.

Third day. Pulse 120; lochia deficient; had a marked rigor after midnight. Since delivery she has been using mercury both internally and externally.

Fourth day. Lochia entirely absent; abdomen tympanitic. Diarrhœa now commenced, and for several days proved rebellious to every mode of treatment. On the sixth and seventh days red patches appeared over the elbow and knee joints, but continued only for twenty-four hours. Her symptoms were liable to great variation: at one time the pulse would be extremely rapid, and at another it would be only 96 or 100. Perspiration was generally present, and at times was most profuse. Her sleep was broken and unrefreshing. On the seventh day she was ordered one grain of digitalis and three grains of Dover's Powder thrice daily. Besides this she got an opiate every night, to induce repose and keep the bowels quiet.

Ninth day. Complains very much of a general feeling of soreness over the whole body; a very disagreeable cadaverous smell is exhaled from the skin, and the breath also has a most nauseous odour; pulse 130; diarrhœa still present. On the tenth day she seemed improved, and the pulse was only 100, and this amendment continued during some days, when she was put on the use of quinine and Dover's Powder. On the eighteenth day she got a rigor, and from this time her strength gradually declined until the twenty-second day, when she expired, being in full possession of her senses and intellect up to the last moment of existence.

A few days before her death she complained very much of pain and stiffness in the right elbow and shoulder, with inability to use these joints.

Autopsy.—No effusion into abdomen. *Uterus* well contracted, and pale in colour. On cutting into the cervix pus escaped from the divided sinuses. Extending from the neck of the uterus to

the right iliac fossa was a hard tumour, the interior of which was occupied by purulent matter. This tumour also passed below Poupart's ligament, but did not communicate with the hip-joint. In the left iliac fossa was another collection of matter, beneath the muscles and in contact with the bone, which felt denuded of its periosteum. In the right elbow-joint, and extending up and down the arm and fore-arm, was a quantity of puriform matter. Nothing abnormal was found in the knee-joint. Each *pleura* contained a large amount of yellow effusion.

This case, of whose history we have been obliged to give only a brief sketch, illustrates many interesting points connected with puerperal phlebitis. It, moreover, bears in some measure upon the pathology of the intropelvic abscesses sometimes occurring in the puerperal state, and tends to shew that they may be caused by an extension of inflammation from the uterus. From our own personal experience in this matter we should feel disposed to view these abscesses as being frequently propagated from the uterus, or at least to be consequent upon uterine inflammation of some kind, as symptoms of this latter have in many cases preceded their formation. If metastatic abscesses can form in other situations as the result of phlebitis, why not here?*

No. 11.—In this case a morbid adhesion, of about the size of a dollar, existed between the placenta and uterine wall, and it was not necessary to introduce the entire hand into the uterus for its separation. Whilst performing this, the greater part of the placental mass was lying in the os and vagina.

No. 12.—Previous to the accession of labour this woman was bled on account of pain over the uterus. As the placenta could not be removed by the ordinary means, at the expiration of two hours, its artificial extraction was accomplished. Throughout its entire extent it was morbidly adherent to the uterus, and so difficult was its separation, that some small portions were unavoidably left behind, through fear of lacerating the uterine substance. On the evening of the same day, and some hours after

* For information upon the subject of "Abscesses of the Iliac Fossa" we would beg leave to refer the reader to the elaborate paper of our friend Dr. Battersby, contained in the third volume of the Dublin Quarterly Journal of Medical Science.

delivery, the pulse was 112; face anxious; hiccough; decubitus on back; abdomen rather tender.

Mercurial frictions.

Calomel, grs. ii., and

Dover's Powder, grs. v.

Abdomen to be stuped with Turpentine.

Second day. Somewhat improved in appearance; pulse 120; lochia natural.

Pills with Mercury every three hours, and frictions thrice daily; warm bran to abdomen.

Third day. Is evidently worse; no lochia; uterus large and very sensible; general depression and languor; knees drawn up; pulse 112; diarrhœa.

To stop the pills.

Fourth day. Pulse 96; tongue dry and white; bowels moved three times in the night; lochia black, fetid, and scanty. On the knuckle of the little finger of right hand is a deep red blush, and the joint is very painful on motion.

Continue frictions.

Vesperé. Much pain in left knee, and down calf of the leg. Pressure on the patella cannot be borne; hiccough.

Anodyne draught.

Fifth day. Slept all night; pulse 128, and feeble; abdomen full, tender over the uterus; knee more painful, and the knuckle has become enlarged; lochia black; hiccough; complains of pain "all over her;" countenance pale and anxious; is still purged.

To have a warm bath.

Ten leeches to knee.

Sixth day. All the symptoms aggravated, and she is sinking rapidly. Death took place early next morning.

Autopsy.—General peritonitis, with copious effusion of lymph and brownish serum. *Uterus* large; its interior was gangrenous, and at the fundus this condition pervaded its entire thickness; wherever

an incision was made into the uterine substance, purulent matter flowed out. *Ovaries* disorganized. Pus was found in the left knee-joint, and in the joint of little finger. The articular cartilages of each were slightly eroded. No purulent effusion in the calf of left leg.

In No. VII. of the cases detailed under the head of Natural Labour, the knuckle of the little finger was attacked with arthritis, in the same way as happened in the present instance, but that woman recovered.

No. 13.—M. C. was delivered May 11, 1843. Upon admission the funis was prolapsed below the head, and pulseless. In half an hour after the birth of the child a very profuse hæmorrhage came on, and pressure and friction, &c., failing to expel the placenta, the hand was introduced for its removal. It was found morbidly adherent throughout its entire extent, and in parts the uniting medium was of an osseous nature, so that the separation of the mass was a work of much difficulty. All hæmorrhage ceased upon the extraction of the placenta, but her strength was very much reduced, and she had to be liberally supplied with brandy, and opium.

The same evening she was rubbed in with Ung. Hydrarg., and got Calomel. gr. ii., et Opii gr. i.

Second day. Rested well; pulse 104, and soft; bowels twice moved,—had a rigor after the first motion; very tender over uterus; lochia natural; is perspiring.

Bran poultice to belly.

℞ Pil. Hydr.,

Pulv. Doveri, āā gr. ii.

Calomel. gr. ss.

Ft. pil., 2dis horis sumenda.

Mercurial frictions night and morning.

Vesperé. Pulse 96; purged four times; less tender over uterus; was griped, and has some tenesmus.

Haust. Anodyn.

Third day. Pulse 92; had a rigor this morning; tongue brown;

bowels moved once in the night; uterus large and tender over left side; lochia red and in proper quantity.

Bran poultice to belly.
Omit the pills.

Vesperé. Purged during the day.

Haust. Anodyn. h. s.

Fourth day. Pulse 68; gums spongy and sore, but no decided mercurial fœtor; purged five times in the night, motions green; tongue brown; very little uterine tenderness; lochia red.

Mercurial ointment to be washed off.

To have Mist. Cretæ cum Tinct. Catechu, Cinnamomi, et Opii.

Vesperé. Diarrhœa still continues.

Haust. Anodyn. h. s.

Fifth day. At 2 o'clock she awoke with a short rigor, for which she got a diaphoretic draught, and had a bran poultice applied on the belly; pulse 76; no abdominal tenderness; lochia red and abundant; mouth sore.

Rep. Mist. Cretæ.

Vesperé. Pulse 84; purged four times; had a rigor at mid-day; she was perspiring when this came on: lochial discharge suspended; labia have become swollen, and are of a light colour and shining appearance.

Haust. Anodyn. h. s.

Sixth day. She had a good night; expression of countenance improved; had a rigor this morning, and is now in a profuse perspiration; pulse 96; tongue moist, but has a thick, brown fur; purged three times; the stools yellow; the lochia have returned.

Rep. Mist. Cretæ.
To have a warm bath.

Vesperé. Pulse 80, and soft.

Haust. Anodyn. h. s.

Seventh day. Slept well; pulse 108, and feeble; tongue thickly coated and dry; purged twice; lochia red and in large quantity; no pain on pressure; complains of her mouth being very sore.

Omit. Mist.

℞ Acidi Prussici ℥ ii.

Solut. Acet. Morphicæ (gr. i. ad ʒ i.) ℥ v. M.

Ft. Haustus, ter in die sumendus.

Gargarisma Aluminis.

Vesperé. Pulse 104; decided mercurial fetor on the breath; purged twice.

Haust. Anodyn.

From this time forward the diarrhœa was the chief symptom to contend with. On the eleventh day inflammation of the perinæum, labia, and vagina came on; and even with all possible care, superficial sloughing of the vaginal mucous membrane could not be prevented. A tendency to adhesions and the formation of cicatrices followed this process, and to ward off these unpleasant effects a bougie had to be introduced into the vagina daily. She went home on the 20th of June, contrary to the desire of Dr. Johnson, who wished that she should have remained some time longer, on account of the state of the vagina.

The recovery of this patient was a source of much satisfaction, as there was little doubt but that she had uterine phlebitis. It is one of the few cases of recovery we have seen where the symptoms were so marked and unequivocal. It deserves to be remembered, however, that at no period of her case was the pulse above 108, and on the fourth, fifth, and sixth days it was 80, or lower. At a former page we have mentioned that this unexcited state of the circulation is to be regarded as a very favourable prognostic in the disease.

This patient told us that she had suffered constant dull pain across the inferior part of the abdomen during the latter months of pregnancy.

No. 14.—Some hæmorrhage preceded the extraction of the placenta, which was detained from inaction of the uterus.

No. 15.—The occurrence of profuse hæmorrhage, rebellious to the ordinary treatment, necessitated the introduction of the hand for the placenta, which was found lying detached in the uterine cavity. The stimulus of the hand brought on good contraction of the uterus, and put a stop to all further loss.

Nos. 16, 17, 18, and 19.—There was nothing particular in these cases, except that in each of them hæmorrhage preceded the removal of the placenta. In No. 18 the placenta was retained from morbid adhesion, but, in the other three, from inertia of the uterus.

No. 20.—The full details of this case have been given under the head of Tedious Labours, No. 203 (page 143).

No. 21.—This was a case of difficult labour; she got ergot of rye, and was afterwards delivered with the crotchet. Vide table of Tedious and Difficult Labours, No. 218 (page 145).

No. 22.—Considerable hæmorrhage occurred in this case, before the hand was introduced for the placenta.

No. 23.—This, as the table indicates, was a twin case. It was the placenta of the second child that was retained. See No. 39 of the table of Hæmorrhages after Delivery.

No. 24.—This woman gave birth to twins, on two different occasions. Her present labour was terminated by the birth of a male child, after three hours' illness. Hæmorrhage subsequently occurred, and when the hand was introduced for the placenta it was found intimately adherent to the uterus.

No. 25.—This case has been alluded to at No. 45 of the cases of hæmorrhage after delivery, and will be found detailed at length under the Breech Cases, No. 93 (page 168).

Nos. 26 and 27.—In each of these cases there was flooding prior to the introduction of the hand for the placenta.

No. 28.—This was a case of difficult labour, in which delivery had to be effected by the use of the perforator and crotchet. There was some hæmorrhage before the removal of the placenta, which was retained from inaction of the womb. She died on the eighth day, of uterine phlebitis. Related under the head of Tedious and Difficult Labours, No. 248 (page 128).

TABLE I.

This shews the duration of labour in the different cases of Retained Placenta. Thus, one woman was half an hour ill; one was one hour; and so on.

Number of Women, .	1	1	2	2	5	1	2	2	1
Hours in Labour, . .	$\frac{1}{2}$	1	2	3	4	5	6	7	8
Number of Women, .	2	1	1	1	1	1	1	1	2
Hours in Labour, . .	10	12	16	30	33	35	36	37	48

TABLE II.

This table is intended to shew the number of labours that each of the women had. Thus, nine were primiparous women; six were women in their second labour; and so on.

No. of Women,	9	6	3	2	2	1	1	2	1	1
No. of Pregnancy	1	2	3	4	5	6	7	9	10	13

TABLE III.

This is the "General Table," which contains a summary of the leading particulars of the twenty-eight cases. Under the head of "Cause of Retention," the letters *ad.* imply that there was a morbid adhesion of the placenta to the uterus; the letter *i.* stands for inertia; and the letters *hg.* for hour-glass contraction.

No. of Case.	Age of Patient.	Hours ill.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Cause of Retention.	Result to Mother.	Observations.
1	40	4	13	B.	l	Ad.	D.	V.
2	24	16	4	G.	l	I.	D.	V.
3	28	1	6	G.	l	Ad.	R.	V.
4	27	36	1	B.	l	Ad.	D.	V.
5	25	2	3	G.	l	I.	R.	V.
6	36	6	9	B.	l	I.	D.	V.
7	21	10	1	G.	D. p.	Hg.	R.	V.
8	30	4	1	B.	l	I.	D.	V.
9	27	6	5	B.	l	I.	R.	V.
10	30	4	7	G.	l	I.	D.	V.
11	28	3	9	G.	l	Ad.	R.	V.
12	30	8	2	B.	D. p.	Ad.	D.	V.
13	30	7	2	G.	D.	Ad.	R.	V.
14	28	30	1	B.	D.	I.	R.	V.
15	28	2	3	B.	l	I.	R.	V.
16	25	7	3	G.	D. p.	I.	R.	V.
17	30	10	2	G.	l	I.	R.	V.
18	28	4	3	G.	l	Ad.	R.	V.
19	22	12	1	B.	l	I.	R.	V.
20	40	33	2	G.	D.	Ad.	R.	V.
21	25	37	1	G.	D.	I.	D.	V.
22	26	4	2	B.	l	I.	R.	V.
23	36	$\frac{1}{2}$	10	B. G.	2	Ad.	R.	V.
24	28	3	4	B.	l	Ad.	R.	V.
25	27	48	1	G.	D.	I.	D.	V.
26	26	5	1	B.	l	I.	R.	V.
27	22	48	2	G.	l	Ad.	R.	V.
28	30	35	1	G.	D. p.	I.	D.	V.

CONVULSIONS.

THE pathology of puerperal convulsions, as well as of the other diseases in the nosological class to which it belongs, is a subject upon which we are in almost complete ignorance. But this imperfection of our knowledge is in a great measure compensated for by the number of facts or laws which have been ascertained relative to the disease, and which have been accumulated by the successive experience of numerous observers. It must be confessed, however, that there are several points upon which our information is still very deficient, so that much yet remains for future investigators to elucidate.

In a disease so justly dreaded and so full of danger as puerperal convulsions, it is satisfactory to know that there very generally exist some precursory symptoms of a sufficiently obvious character to lead one to anticipate its attack, and, by the timely use of proper measures, to prevent it altogether, or materially lessen its violence. Amongst the cases of convulsions that have fallen under our observation, warnings of this kind were, upon close inquiry, very seldom found to have been absent, although they were not always equally striking or manifest. The most constant of these premonitory symptoms are headach, varying in kind and degree, but generally of a dull, obtuse, or tensive character, and liable to be increased upon exertion, particularly on stooping; an œdematous condition of the face and upper extremities, most visible in the morning, soon after rising; a furred tongue and sluggish state of the bowels. Œdema of the lower limbs has been considered by Dr. Hamilton and others as a very certain precursor of eclampsia;* but our experience is at variance with this, and we would, with Dr. Johnson, be disposed to regard œdema,

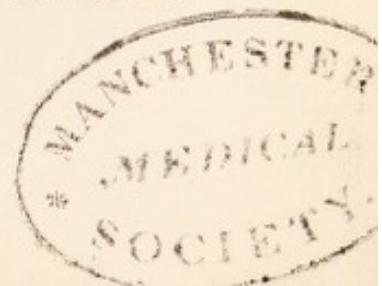
* Dr. Hamilton's paper is contained in the fifth volume of Duncan's *Annals of Medicine*, and is well deserving of a most attentive perusal.

confined to the face and hands, as more decidedly premonitory of convulsions. In some cases the above symptoms were more prominently marked than in others, or were accompanied by one or more of the following, viz. : vertigo; tinnitus aurium; flashes of light before the eyes, or *muscæ volitantes*; temporary loss of vision or of consciousness; flushed face; pain at the epigastrium; and an albuminous state of the urine. Dr. Lever was, we believe, the first to draw attention to the state of the urine in this class of patients, and to shew that in them it very constantly presents albuminous characters. Not only has he found this condition of the secretion in women actually labouring under an attack of the disease, but, what more concerns our present purpose, his investigations have led him to think that it frequently exists for some time previous to the convulsive seizure,—so that it may be included in the category of premonitory symptoms. Dr. Lever writes: “I further have investigated the condition of the urine in upwards of fifty women, from whom the secretion has been drawn, during labour, by the catheter, great care being taken that none of the vaginal discharges were mixed with the fluid; and the result has been, *that in no cases have I detected albumen, except in those in which there have been convulsions, or in which symptoms have presented themselves, and which are readily recognised as the precursors of puerperal fits.*”* We have examined the urine in some cases where convulsions were present, and in several others where they were threatened, and the general tenor of the results coincided with those of Dr. Lever. His conclusions receive additional confirmation from the researches of MM. Devilliers and Regnault.†

When any group of the above premonitory symptoms presented themselves in a woman pregnant for the first or second time, particularly if she was of a plethoric habit and near the full term, it is needless to say that the prophylactic plan of treatment was rigidly enforced. Indeed, under such a combination of circumstances, very little doubt can be entertained but that convulsions

* Guy's Hospital Reports, New Series, No. ii. p. 512.

† Revue Medicale, Mars, 1847, p. 449. Dr. Lever has suggested that this albuminous state of the urine is the consequence of pressure on the renal veins. If so, why does it not occur in subsequent as well as in first pregnancies?



would sooner or later supervene, were not the assistance of art interposed to rescue the woman from the impending danger.

In the first place, then, blood-letting was practised to the extent of ten, twelve, or fourteen ounces, care being taken to tie up the arm upon the first appearance of syncope. A mercurial purgative was next exhibited, and the regular action of the bowels was subsequently kept up by appropriate laxatives. But, above all things, open air exercise and an unstimulating diet were strictly enjoined. If the patient be resident in a town, removal to the country for a short time will be found most beneficial. Where these means were not effectual in removing the headach, leeches were applied to the temples, or, should there have been nothing to forbid it, bleeding from the arm was again resorted to. In cases where the predisposition is strong and difficult to eradicate, besides using these remedies Dr. Johnson is in the habit of giving James's Powder after the following manner: he begins with a small dose at bed-time, and continues increasing it every night by one grain, until it produces some sensible effect, or until the dose amounts to ten or twelve grains, when it is omitted. Should there be any vascular excitement, or should the kidneys not be acting properly, digitalis, with dried soda, may be given in divided doses.*

Moreau states that advanced age, the patient being primiparous, is one of the strongest predisposing causes of convulsions.† We cannot, however, acquiesce in this opinion. Of ninety-five cases of pure eclampsia, collected from the writings of Mauriceau, Lee, Collins, and Lever, and from our own note-books, the earliest age at which convulsions occurred was 17, and the latest 38. Now, if we divide this interval into seven periods, the first six comprising three years, and the last four years, we find the number of convulsion cases in each of these periods to be as follows: in the first period (ages 17, 18, and 19), seventeen cases; in the second period (ages 20, 21, and 22), twenty-five cases; in the third period, twenty cases; in the fourth period, eighteen cases;

* In the twenty-fourth volume of the Dublin Medical Journal, the reader will find a paper by Dr. Robert Johns, on the premonitory symptoms and prophylactic treatment of puerperal convulsions.

† *Traité Pratique des Accouchements*, vol. ii. p. 191.

in the fifth period, seven cases; in the sixth period, six cases; and in the seventh period (ages 35, 36, 37, and 38), two cases. No doubt the number of primiparæ diminishes with the age, as we ascend above 25 or 26; but, on the other hand, the difficulty of the labour is proportionally increased, so that this circumstance in a great degree counterbalances the former.

The approach of a convulsive seizure during labour is very commonly indicated by a certain condition of the patient, which can seldom fail of being recognised by the vigilant attendant, and which of course will suggest the immediate adoption of vigorous preventive measures. This state is characterized by great restlessness and impatience, especially at each recurrence of the pains, so that it is with extreme difficulty the patient can be restrained from flinging and tossing herself about; her manner, too, is often changed, and unlike what is natural to her. At other times there will be a temporary loss of consciousness, described by the nurse as a "faint." Rigors and headach are frequent concomitants at this time, and the pulse is generally found to be uncommonly slow, or considerably quickened. Of the rigor Dr. Hamilton remarks: "When this happens during the second stage of labour, and is preceded or succeeded by great irregularity of pulse, convulsions inevitably follow, if proper means be not speedily adopted to prevent them." The existence of these warning symptoms in a first labour amply justify the employment of prompt and decisive measures. Bleeding, free evacuation of the bowels, and nauseating doses of tartar emetic, administered at short intervals, are the remedies usually resorted to under such circumstances. By such a course we have on many occasions succeeded in averting the threatened outbreak.

Denman, we believe, was the first author to point out the strong tendency that exists to peritonæal inflammation in cases of puerperal convulsions, and this remark has been abundantly confirmed by Dr. Collins and other observers. Of its truth and importance we are fully assured, and the influence it had upon the practice will presently be shewn. So remarkably strong and difficult to eradicate is this predisposition, that in several instances we have seen metritis to manifest itself in patients who had been

only *threatened* with convulsions, the fits having been warded off by the means already described.

The use of the stethoscope in convulsion cases is not unfrequently a source of valuable information, both as regards prognosis and practice, and on this account auscultatory examination of the foetal heart should never be omitted, whether the patient be in labour or not. Thus, after an attack of convulsions in the latter months of pregnancy (and before the accession of labour), we shall be anxiously asked by the patient and her friends, "whether gestation is likely to go on to the full term, and whether the child has suffered in consequence of the fits." Before answering the first of these questions we must determine the second; for the probability of the woman's completing her pregnancy mainly depends on the vitality of the foetus; if this be unimpaired, uterogestation may reasonably be expected to proceed to the natural period of parturition, unless the fits should recur: but if the child has perished (as commonly happens where the convulsions are violent), then labour will ensue at the usual period after the death of the foetus *in utero*, namely, within ten days or a fortnight. Though we freely admit the almost impossibility of arriving with certainty at a knowledge of the death of the foetus under these circumstances; yet on the other hand, if it be alive we can seldom fail of discovering the fact, and shall thus be enabled, in a considerable number of cases, to give a positive answer to one of the questions, and a qualified affirmative to the other.

When convulsions seize a patient during labour, the stethoscope should be applied, and the exact situation and character of the foetal heart's sounds ascertained as soon as possible after the subsidence of the fit, for it not unusually happens that the child perishes in one of the subsequent paroxysms, if severe. By examining, therefore, at intervals, in the manner before described, when speaking of difficult labour, we may obtain an auxiliary guide as to the time for using, and the choice of instruments. But candour obliges us to confess, that in this particular class of cases the practice of auscultation is by no means so applicable or of such extensive and definite utility as in ordinary cases of tedious labour, in consequence of the restlessness and jactitation so common

in these patients. Respecting the occurrence of convulsions during early pregnancy, Dr. Johnson has informed us that he has never met with a case of decided eclampsia before the sixth month. This accords with the experience of Dr. Robert Lee.

One of the well-established facts connected with the class of labours at present under consideration, is that the vast majority of instances occur amongst women pregnant of their first children. Ten of the thirteen cases we have recorded were primiparæ. It rarely happens that a woman is attacked with convulsions in her second labour who has not had them in her first; but when such does take place, we believe it may be often accounted for in this way, that either preventive treatment had been adopted in the first pregnancy and not in the second, or else that the second labour was more tedious and prolonged than the first, for delay in the labour unquestionably tends to favour the development of the disease. In the thirteen cases related in this Report, as well as in all the others that have come under our observation, the head was the presenting part, which agrees with the experience of Dr. Joseph Clarke, Dr. Labatt, Dr. Collins, and Dr. Johnson. Each of the two latter physicians, however, saw one convulsion case in which the head was not the presenting part.

It does not appear that females who are subject to epileptic fits are more liable on that account to attacks of puerperal convulsions. On the contrary, it would seem that they enjoy an exemption, and that even the epileptic attacks occur with less frequency, and with mitigated severity, during pregnancy. This certainly was the case in three or four instances of pregnant epileptic females who came under our notice. We are not aware that the convulsions of epilepsy ever produce any injurious effect on the fœtus.

The means upon which chief reliance has been placed in the treatment of this complication of parturition, were copious blood-letting, free evacuation of the bowels, the administration of tartar emetic (as first recommended by Dr. Collins), and cold affusion of the head and face. In performing this last, particular care should be taken not to wet more of the patient than is absolutely necessary, nor to let any damp linen remain in contact with her chest, &c. Neglect of this precaution is very certainly followed by troublesome bronchitis, which is sure to aggravate any abdominal

inflammation, or even to induce it by the repeated acts of coughing. If the bowels had been well freed previously, the use of tartar emetic solution was at once commenced with. Its form of exhibition in these cases was nearly the same as that recommended for rigidity of the os uteri, viz., two grains of the salt were dissolved in four ounces of distilled water, to which was added one scruple of tinct. opii. A table-spoonful of this mixture may be given every hour, or half hour, according to the urgency of the symptoms.* Where much of the solution has been taken, without its producing vomiting, diarrhœa is very apt to occur soon after delivery.

Of all the means for combating this formidable complication of labour, venesection is the most efficacious and generally useful, for not only does it abbreviate the number and severity of the convulsions, but it is calculated to prevent the bad effects of cerebral congestion, occasioned by the fits; and it further tends to lessen the risk of abdominal inflammation after delivery, to which we have already seen there is a great liability. The quantity of blood to be drawn is to be regulated by the effect on the convulsions or constitution. It was sometimes necessary to have recourse to the lancet two or three times in the course of single case, so that very many ounces (30, 40, or 50) of blood were abstracted. This may frequently be done with safety and advantage in women of a robust and plethoric habit, but we agree with M. Jacquemier, that, as a general rule, after a full and decided impression has been made on the system, further depletion is not likely to answer any good purpose, and may be prejudicial. Should the symptoms not improve under the use of these remedies, or should the coma be prolonged, the head ought to be shaved, and an ice-cap applied. During the fit, it should be an object of special attention to protect the tongue from being bitten. For this purpose let an assistant be placed at the woman's head, in readiness to put something between the molar teeth upon the accession of each fit, at which time the plug can be introduced without difficulty, as the jaws are then slightly separated. A timid person ought not to be intrusted with this duty. If the

* See Dr. Collins's Practical Treatise, and also a paper on "The Use of Tartar Emetic in Obstetric Practice," by Dr. Every Kennedy, in the American Journal of Medical Sciences, February, 1836, and vol. x. of the Dublin Medical Journal.

tongue or cheeks be lacerated, it reflects much discredit on the practitioner, and after a few days becomes a source of no small pain and annoyance to the patient.

In some cases, each recurrence of the paroxysm takes place pretty constantly at the time of a pain, and this may have led to the observation, originally made by Puzos, that the convulsions occasionally act as pains. It has been remarked by M. Columbat, "that the attack of eclampsia does most commonly take place just as the head is escaping from the circle of the os uteri, or from the vulva, or, in other words, at the period when the labour has reached the *summum* of its intensity."* This, we believe, is very often the case.

The circumstances under which instrumental interference was had recourse to will be best understood by reference to the cases. From the known liability to uterine or abdominal inflammation after an attack of puerperal convulsions, it was customary in the Hospital to direct occasional small friction with the mercurial ointment, and also to give some blue pill at intervals, during the first few days after delivery. The object of this was to prepare the system, so that in the event of inflammatory action supervening, mercurialization might be produced with as little delay as possible. Mauriceau has remarked that convulsions coming on after labour are less dangerous than when they attack the patient at an earlier period. In this statement we concur, and it is also supported by Dr. Collins and Dr. Johnson. This author also asserts that in those cases of convulsions where the child is putrid, more danger is to be apprehended, and that, in fact, they are more likely to end badly. Denman combats this opinion, and says that "when women have convulsions, the death of the children ought generally to be esteemed rather an effect than a cause, as they have very often been delivered of living children while they were in convulsions, or of dead, or even putrid children, without any tendency to convulsions." Of Dr. Collins's thirty cases, two of the women gave birth to putrid children; they both recovered well, and presented no very unfavourable symptoms.

* "Treatise on the Diseases and special Hygiène of Females." By M. Columbat de l'Isère. Translation, by Dr. Meigs, Philadelphia, 1845.

Before forming a prognosis, there are many circumstances which must be taken into consideration. It may be laid down as a general rule, that the earlier the period of labour at which the convulsions occur, the more grave and guarded should be our prognosis. Those cases, also, where the convulsive paroxysms are violent and prolonged,—where they recur at short intervals,—and where they are followed by profound or long-continued coma, are to be viewed with much apprehension. We think that this circumstance,—the quick or tardy return of sensibility after the fits,—is a better criterion by which to judge of the patient's danger than the degree of violence which the fits may have had. With reference to the mortality in convulsions, M. Columbat states that “generally speaking, the disorder terminates fatally in half the cases.” There must, assuredly, be some error here, at least he cannot have drawn this conclusion from the results of British practice.

When a woman is for the first time attacked with convulsions in her fourth, fifth, or subsequent pregnancy, a very cautious prognosis should be given, as there is a very strong probability that the disease here depends on some organic lesion. Women are also liable, in any pregnancy, to another species of convulsions, which can scarcely be confounded with pure eclampsia, viz., those convulsions that succeed profuse losses of blood, and are generally the harbingers of dissolution.

We have seen a few examples of that peculiar form of temporary mental incoherence described by Dr. Montgomery, and generally occurring just as the head is clearing the os uteri. “It comes on suddenly, during perfectly natural and favourable labour, and most frequently at the particular stage of the process which I have pointed out; it is not accompanied or followed by any other unpleasant symptom; it occurs, perhaps, immediately after the patient has been talking cheerfully, and, having lasted a few minutes, disappears, leaving her perfectly clear and collected, and returns no more, even though the subsequent part of the labour should be slower and more painful. In every instance which came under my observation, the patients were afterwards conscious that they had been wandering, and

occasionally apologised for anything wrong they might have said, although they were not aware of what the exact nature of their observations might have been.*

Thirteen cases of Convulsions occurred in the Hospital during the period of our Report. *Ten* were first pregnancies, and *three* were second pregnancies; two of these latter had had convulsions in their first labours, and in the third case, an interval of ten years had taken place since the birth of her first child. In *ten* cases the convulsions came on before delivery, and in *two* of these they continued after delivery; in *three* instances the attack did not begin until after the woman was delivered. *Six* of the children were males, and *seven* females. Of those born alive, *three* were boys and *four* girls. *Six* women were delivered naturally; *four* by the crotchet, *two* by the forceps, and one by the vectis. *Three* cases ended fatally.

We shall now give the histories of all these cases.

No. 1.—R. C., first labour. This patient was admitted on February 18, 1842, at midnight, with evident and well-marked symptoms of approaching convulsions. She had great flushing and œdema of the face, a wild expression of her eyes, swelling of the upper and lower extremities, a strong, bounding pulse, and intense headach, confined to one spot of the forehead. The os uteri was only very slightly opened, and felt rigid. The bowels had been freed before admission by a dose of castor oil.

Sixteen ounces of blood were immediately taken from the arm, after which the headach and general uneasiness were greatly relieved, and the pains ceased. During the remainder of the night she slept comfortably. Next morning she was ordered one grain of blue pill, and two grains of James's Powder every two hours during the day. She continued free from headach and pains until 5 o'clock, P. M., of the following day (20th), when labour set in, and shortly after midnight she was delivered of a living girl. For some minutes before delivery she seemed very drowsy, and gave utterance to a few incoherent sentences. Soon after the child was expelled she fell asleep, and remained so until 5 o'clock.

* From Dr. Montgomery's paper in Dublin Medical Journal, vol. v., page 61.

On awaking, she was seized with a convulsive paroxysm, for which she was bled to thirteen ounces, and got antimonial solution; the head was also shaved, and a cold lotion applied. Between this and 3 o'clock, P. M., she had seven fits, at irregular intervals. After the exhibition of the tartar emetic, her stomach became sick, and she vomited. The bleeding was repeated, and two grains of calomel and two of James's Powder were given every three hours, and the temples leeches. After the fifth fit, which was less violent than the preceding, a blister was applied between the shoulders, and a starch enema, containing thirty drops of laudanum, administered. The seventh fit (at 2, P. M.) was a slight one; but the eighth and last fit, which occurred at 3 o'clock, was severe and prolonged. As great reaction had taken place before this fit came on, the face being flushed, and the pulse 120, and full, fourteen ounces more blood were abstracted and with manifest benefit. An ice-cap was also applied to the scalp.

Second day. Pulse 110; complains only of some uterine pain and tenderness. The mercurial treatment was adopted, and as soon as the system was brought under the influence of the mineral she began to amend. Her complete recovery was retarded by the occurrence of diarrhœa, but excepting this, no untoward symptom occurred. She was allowed to return home on the 15th March.

At the time of admission, this woman exhibited a combination of many very striking premonitory symptoms of puerperal convulsions, on which account she was bled and got a few doses of calomel and James's Powder; and although this treatment did not effectually prevent the fits, yet there can be little doubt but that by rendering her labour easy, it postponed their occurrence till after its completion, and also caused them to be less severe than they would otherwise have been.

No. 2. E. L., first labour; delivered May 9, 1842.

This woman had a fit of convulsions before coming to the Hospital, and the œdematous state of her face, neck, and extremities, sufficiently evinced the strong tendency that existed to this complication. By questioning her, we ascertained that this condition had been present for several weeks. Her pulse was 92,

and full, and the os uteri was very little dilated. Immediately after coming in, a large bleeding was taken from the arm, and ten grains of calomel, followed by black dose, was exhibited. After the medicine had time to operate, the antimonial solution was given. Occasionally she became restless, and seemed on the brink of a paroxysm. At 5, A. M., seven hours after admission, she was seized with a fit, which lasted for five minutes. In half an hour this was succeeded by a second, which was rapidly followed by a third and fourth. Another bleeding (to seventeen ounces) was now practised, and cold applied to the shaved scalp. For some time after the last convulsion, she lay in a state of coma, with stertorous breathing, and the pulse 148 and small. At 7 o'clock she had a fifth fit; this was a short one, and was apparently induced by the operation of administering a cathartic enema. A free evacuation of the bowels followed this, and there was no return of the convulsions. At 2 o'clock in the afternoon she was delivered. The foetal heart was audible when she came into the Hospital, but at a later period it ceased to be heard.

Second day. Pulse 104; has some cough; complains only of pain in the back and right side.

Calomel, gr. i.
 James's Powder, grs. iii.
 Dover's Powder, grs. ii., every three hours.
 Mercurial frictions.

Third day. Pulse 140; pain in the right side is her chief source of distress; some uneasiness in the abdomen.

Side to be cupped.
 Repeat pills and inunction.

In the afternoon she became rather excited and delirious, in consequence of which small doses of tartar emetic solution were given.

Fourth day. The pain in side was not relieved until after a blister had been applied; pulse 140 and weak; is quite rational, but very languid and depressed; diarrhœa has set in. At noon she fell into a lethargic state, out of which she became delirious; but this

was succeeded by a return to consciousness, accompanied with great debility and prostration. This weakness continued to increase, and at midnight she expired.

Autopsy.—Some slight subarachnoid effusion. Serum in each pleural cavity, and in the right mixed with flakes of lymph. The peritonæal cavity contained yellow serum in considerable quantity, and some lymph was also effused. Uterus large and soft.

In the above history one important fact has been omitted, namely, that between the fits this woman did not regain complete sensibility and consciousness. She was in a stupid, heavy state at the time of delivery, and so little impression did it make upon her that she forgot all about it, and not till the third day could she be brought to believe that she had given birth to a child. No preventive treatment whatever had been adopted in this case, as the woman did not apply for relief at the Hospital or elsewhere.*

No. 3.—A. M., second labour; delivered June 7, 1842. In this patient's first labour, two years ago, she had convulsions, but was safely delivered of a living female child. On the present occasion her labour was short and easy, but in eight hours and a half after the birth of the child she had a convulsive fit, which was followed by two others of less severity. The second fit occurred two hours after the first, and the third two hours after the second. After the first fit, bleeding to the extent of twenty-four ounces was practised; cold was applied to the head, and antimonial solution administered. Within the first few days after delivery there was some uterine tenderness, which subsided under ordinary simple treatment, and she was able to go home on the eighth day.

* It may here be mentioned that the regulations of the Hospital require every ticket of admission to be countersigned by the Master or one of the Assistants, some time before the patient seeks admission on the accession of labour. The object of this is, that an opportunity may be afforded of inquiring into the state of the woman's health, and of ordering medicine if requisite. Necessity, however, sometimes renders a breach of this salutary rule unavoidable, as, for instance, in the above case, where a woman was brought to the Hospital in a state of actual labour, and in considerable danger. Under these circumstances, the claims of humanity must supersede every other consideration, as to send the woman away might seriously endanger her life.

This woman, during the latter week of pregnancy, had several premonitory symptoms of convulsions, but she did not present herself at the Hospital until labour had commenced, and no means had been adopted to remove the disposition to the disease.

No. 4.—A. C., second pregnancy. She was confined of her first child ten years ago. On the 4th of January, 1842, she came into the Hospital in labour, and at the same time was suffering much from a severe cough. At 1, A. M., of the 5th, the cough was so violent, coming on in paroxysms, that it was necessary to bleed her in the arm, which gave great relief. After the bleeding, the dilatation of the os progressed somewhat more rapidly. At 10, A. M., it was about the size of half a crown, and the membranes protruding through it. Very severe rigors accompanied each pain at this period of the labour; indeed they seemed more violent than the mere dilatation of the os uteri would account for. At half-past 4 o'clock in the afternoon she had a convulsive fit, and sixteen ounces more of blood were taken from the arm. The os at this time was nearly fully dilated, and the foetal head was beginning to enter the pelvic brim. Foetal heart audible. After the subsidence of the fit her labour went on favourably, and was concluded by the natural efforts at 6 o'clock, the uterus contracting well after the expulsion of the child. It relaxed, however, in about half an hour, and hæmorrhage set in. The placenta was found in the vagina, and was promptly removed; nevertheless, the loss of blood was profuse, and she was so much reduced as to require the free administration of brandy, &c. She recovered slowly, but perfectly, and was discharged from the Hospital within three weeks.

We have generally regarded severe rigors in the first stage of labour, when unaccompanied with a proportionate amount of dilatation of the os uteri, as the harbingers of convulsions, particularly if it be the woman's first child. At all events, they point out the existence of great nervous irritability. The severe cough and dyspnœa may have conduced to the development of the convulsions in this case.

No. 5.—C. H., aged 19. About six weeks before delivery this woman had a convulsive fit. Prior to this attack she had suffered from headachs and œdema of the extremities, which symptoms

continued until January 1st, 1843, when she had a repetition of the convulsions. On the following day she applied for relief, in consequence of severe headach. Twelve ounces of blood were taken from the arm, and marked benefit followed this depletion. In order to carry out the treatment more effectually, she was taken into the chronic ward of the Hospital. After the bowels had been well freed, two grains of James's Powder were given to her at bed-time, and the same medicine was directed to be given her for four successive nights, increasing the dose each night by one grain. At the same time, the bowels were kept regular, and she was allowed to exercise freely in the open air every day. On the 5th, the uterus began to subside, and on the 8th, labour set in at 8 o'clock, A. M. During the day, the pains recurred at regular intervals, and the dilatation of the os uteri went on gradually though slowly. At noon she became restless, and began to complain of headach, whereupon she was ordered antimonial solution. At 2 o'clock the headach was less, and the pulse 100. In the afternoon she complained of great heaviness and inclination to sleep.

January 9. The os uteri this morning was found to be about two-thirds dilated, the membranes unbroken, the pains good, and the head presenting at the brim of the pelvis. As she complained of pain across the lower part of the uterine tumour, she was bled to twelve ounces, and was ordered one grain of calomel and blue pill, with two grains of James's Powder, every second hour. At half-past 5 o'clock she was seized with a convulsive fit, which lasted for about three minutes. Shortly after its subsidence a little more blood was taken from the arm; but she rapidly became so faint that only three ounces could be withdrawn. A fetid enema was now given. At 6 o'clock she had a second fit, and on examination the os was found fully dilated, the waters discharged, and the head moulding to the pelvic cavity, but the ear not within reach. The suspension of consciousness after each of these fits was only temporary. At 8 o'clock the patient's symptoms had assumed a very alarming aspect: she was very restless, and so weak as to require small quantities of wine; pulse rapid and feeble. Under these circumstances immediate delivery was deemed to be imperatively called for, and as the head was alto-

gether beyond the reach of the forceps, was effected by means of the perforator and crotchet. The uterus acted very feebly; however, no hæmorrhage followed, and the placenta came away naturally. The same night mercurial inunction was commenced.

Second day. Had a tolerably good night; pulse very rapid and weak; complains of pain over the left side of abdomen; lochial discharge natural. This morning she got a dose of castor oil and tincture of senna, which acted three times during the day; the evacuations were greenish and watery, and accompanied with much flatus.

Third day. Had an uneasy night, owing to the frequent moving of the bowels, to control which ten minims of black drop were given: tongue brown, and rather dry in the centre; thirst; belly tympanitic; acute tenderness over the left side of uterus; lochia pale; pulse 136, and feeble; no headach.

Vesperé. Had a draught containing twenty drops of spirits of turpentine in the day, and a turpentine stupe to the abdomen, whereby the tympanitis was lessened; bowels twice moved; had some sleep.

Anodyne draught.

Mercurial frictions.

Fourth day. Complains of a general feeling of soreness over the body; pulse 132; gums appear spongy, but there is no decided mercurial fetor; abdomen very full. The bowels were not disturbed during the night; considerable pain in the left side of the uterus.

Ten leeches to be applied over the uterus.

On the morning of this day an eruption of a dusky red colour, in distinct patches, was observed over the arms and chest; lochial discharge suppressed; abdomen more tympanitic; great restlessness.

Turpentine stupe.

Purgative enema.

Mercurial inunction.

Very little change took place in her symptoms until the evening of the sixth day, when the respiration became hurried; pulse 140, and thready; some vomiting; contracted pupils; a disposition to talk incoherently; restlessness, and whining occasionally in a

low voice. On the seventh day there was raving; hurried respiration; diarrhœa with tympanitis; dilated pupils; some vomiting. Expired at 1, P. M.

Autopsy.—No effusion into peritonæum; the serous covering of the *uterus* vascular at its fundus; the internal surface of the organ sloughy, particularly at the site of the placenta, and on cutting into this part pus exuded.

The *pericardium* contained six ounces of straw-coloured serum, through which were floating small particles of lymph. The *heart* was softer than natural. The lining membrane of the right auricle seemed highly vascular. In the muscular substance of the apex was found a small, circumscribed, purulent deposit.

Serous effusion existed beneath the arachnoid, and in the ventricles of the *brain*.

We have transcribed this case without abbreviation from our notes made of it at the time. The extreme faintness which the loss of three ounces of blood occasioned at the last bleeding surprised us a good deal, as she had not been previously bled to any large amount, nor was she a woman of by any means a delicate constitution. On the fourth day she complained much of a feeling of general soreness over the body, with great languor and weariness. This is a symptom we have frequently observed in cases of uterine phlebitis, and it has been mentioned in different cases throughout this Report. Dr. Lee has also noticed it, as may be seen from the following passage: "In other women, who have never been subject to attacks of rheumatism, severe pain is experienced in different parts of the body, more particularly in the joints and extremities, with exhausting fever."* On this same day another symptom, almost peculiar to phlebitis, made its appearance; viz., a dusky red eruption, in patches, on the arms and chest. This would appear to be the mildest form of cutaneous affection following upon puerperal phlebitis. In Case xxiii. of Natural Labours, a somewhat similar eruption, though not at all so extensive, presented itself.

The feature of greatest interest in this case, however, was the

* Researches on the Pathology and Treatment of some of the most important Diseases of Women.

purulent deposit in the substance of the left ventricle of the heart. Metastatic affection of this organ in puerperal fever appears to be of extreme rarity, at least in these countries, as this was the only case of the kind we have ever seen, and in none of Dr. Lee's or Dr. Ferguson's recorded cases have we been able to discover that a similar lesion existed. In the Prague Lying-in Hospital this sequela was not so very infrequent. Dr. Kiwisch writes : "The metastatic carditis, with deposition of purulent matter in the muscular substance of the heart, is scarcely capable of being ascertained during the patient's life; the metastatic inflammation of the valves (endocarditis), on the other hand, is more distinguished by its symptoms. I saw this latter form of the disease repeatedly during the last epidemic; twice in patients who had previously suffered from endocarditis, and who were probably, therefore, peculiarly liable to be attacked. The disease, in these cases, manifested itself by violent vascular excitement,—strong palpitation, during which, upon examination, the heart was felt beating powerfully over a surface of many square inches; at the same time the sounds of the heart were more or less dull upon auscultation, running into each other, and indistinct from more or less sound of *frottement*. No other symptoms elsewhere were perceptible. The course of the disease was very violent, and the patients all sank very rapidly."*

No. 6.—M. C., aged 21, delivered March 21, 1843. The pains set in on the 19th, the membranes having ruptured the day before. At 9, A. M., the os uteri was the size of a sixpence, and the pains recurring at long intervals. On the 20th she was ordered tartar emetic solution, in consequence of the rigid state of the os uteri. This sickened her a good deal, and at 9, P. M., the os was fully dilated, and the head entering the pelvic brim; foetal heart audible, but weak and rapid. From this time the expulsive pains continued until 2, A. M., of the 21st, when she was seized with a violent and protracted fit of convulsions. She was now freely bled, and again put on the use of tartar emetic solution. After some little time she regained the full possession of her senses, and dozed at intervals until 5 o'clock, when another paroxysm came

* British and Foreign Medical Review, January, 1842.

on, equally violent as the other, but not so protracted. After this fit she remained in a stupid, lethargic state. On examining, *per vaginam*, the foetal head was found in precisely the same position as it had been the evening before, high up in the pelvis, and the ear totally out of reach. Delivery was now accomplished with the crotchet, but not without considerable difficulty and trouble, owing to the extreme restlessness of the patient. The length of her labour was thirty-two hours. After delivery the head was shaved, and mercurial ointment rubbed into the axillæ. She was not perfectly collected until the evening, but even then had no recollection whatever of the circumstances attending the operation or extraction of the child. There was some abdominal tenderness and rapidity of pulse for a few days, but subsequently she went on well, notwithstanding the presence of a troublesome diarrhœa, which for some time resisted all the means employed to check it.

No. 7.—M. G., aged 27, second labour. This woman was delivered of her first child in the Hospital in June, 1841, by means of the crotchet, on account of convulsions: these came on during the labour, which was of forty-one hours' continuance.

On the present occasion she was admitted April 13, 1843, at 4, A. M. As she had not previously applied at the Hospital, no kind of preventive treatment was adopted. At 5 o'clock (an hour after her admission) she was seized with a fit of convulsions, and between this and 6 o'clock she had five more fits, there being no return of consciousness during the intervals. After the first of these, blood was taken from the arm to the extent of about thirty-five ounces, and ten grains of calomel, followed by purging mixture, were administered. The os uteri at this time was very little dilated, the membranes were found ruptured, and the foetal heart could not be heard. During the day she continued in a state of stupor, and there was a cessation of labour pains. Soon after the last fit her head was shaved and an ice-cap applied, and, subsequently, a blister to the nape of the neck.

In the evening she became sensible, and at 8 o'clock labour pains came on. The os dilated rapidly, and the child, a dead boy, was expelled at 11 o'clock. When the head was distending the perinæum she was very restless, and talked incoherently, but

on the birth of the child these symptoms disappeared, and she became more composed and rational.

Second day. It was discovered this morning that there existed partial paralysis of the left side of her face and of the right arm. Pulse 96; some uterine tenderness. In the course of the following week it was necessary to apply leeches over the uterus, and to administer mercury in small quantities, as there was some threatening of metritis. On the eleventh day the symptoms of inflammation had quite subsided, and the pulse was only 80: the paralysis still remained, and she had not sufficient power of the hand to grasp anything. On the twelfth day, the pulse being still perfectly quiet, she became maniacal, and was put on the use of antimonial solution.

Thirteenth day. Is constantly whining, in a state of low melancholy, and made two or three attempts to get to the window, evidently with the intention of throwing herself out. During this day small doses of antimonial solution were given, and at night her feet were stuped, and she got five grains of extract of henbane and camphor, and a plain cathartic enema.

As her maniacal symptoms continued for some time after this, assuming the form of low, religious melancholy, she was transferred to the Richmond Lunatic Asylum. Through the kindness of Dr. Mollan we are enabled to state the result of her case. Her mental derangement continued during the following months of June, July, August, and September, but by the beginning of October she had so completely regained the use of her reason and faculties as to be no longer a fit object for the Institution; accordingly on the 14th October, 1843, she was allowed to return to her friends, and since then we have heard nothing of her.

No. 8.—B. C., aged 34, first child. Her labour commenced at 1 o'clock, A. M., of July 1, 1843, and progressed most favourably until 12 o'clock, noon, when she was seized with a very violent fit of convulsions. Immediately after its subsidence she was bled from the arm, and as the head was on the perinæum and the ear within reach, the pubic blade of the forceps was introduced, and, being used as a vectis, the child was speedily extracted. It was born in a very weak state, and not resuscitated without much

trouble. In twenty minutes after the child was born a second very violent fit came on. Bleeding was again had recourse to, and the cold douche to the head. During the remission between the first and second fits she was perfectly sensible, but the latter was so quickly succeeded by a third that there was no interval of reason. This fit left her in a very weak, exhausted state,—so much so that some sal volatile had to be given her, and a sinapism applied to the epigastrium. In a little time she became sensible to external impressions, and asked to see her child. Upon removing the sinapism she had another fit ; this was at 2, P. M. A starch injection, with ℥_{xxx}. of tr. opii, was now thrown up the rectum. At half-past 5 o'clock a fifth fit seized her, and proved a violent one. The head was now shaved, and as she expressed a wish to suck a lemon it was allowed her. Two short fits followed this, one at three-quarters past 5, and the other at half-past 6 o'clock. At a quarter past 8 o'clock she again had a very severe attack. Immediately previous to it she asked for some tea, which she got, and at the same time, a blister was applied to the back of the neck. The antimonial solution was repeated, and another starch enema, with laudanum, given. For twenty minutes after this convulsion she lay in a very drowsy state, approaching to insensibility, with a small, rapid pulse, but consciousness gradually returned. During the fits there was strabismus, and the pupils were very much dilated. Between this time and 8 o'clock the following morning (July 2) she had seven fits, but none of them were violent or prolonged, and before the accession of each she had always regained the use of her intellect.

Half-past 9 o'clock (second day). She got some calomel this morning, followed by a fetid enema, and the bowels have been well freed ; pulse 128 ; some tenderness over the uterus. Three of the motions and the urine were passed involuntarily.

Twelve leeches to the temples.

Mercurial frictions.

James's Powder, 2 grs. every second hour.

Third day. Pulse 120, and full ; tongue white ; thirst ; bowels

twice moved; abdomen distended and painful; lochia red; complains of an uneasy sensation within her head.

To have every second hour, in a pill, half a grain of Calomel, and two grains of James's Powder and of prepared Chalk.
Frictions to be continued.

Under the use of mercury and constant stuping, the abdominal tenderness was entirely removed by the sixth day, except a little in the right iliac region, which a blister relieved.

Eighth day. Pulse still keeps very rapid, 130, but she sleeps tolerably well at night; complains of headach and intolerance of light. She has been taking prussic acid and solution of morphia on account of diarrhœa and the rapidity of pulse, but these medicines were discontinued to-day, and Dover's Powder and digitalis substituted.

Fifteenth day. Has been steadily improving, but the pulse is 112: it was thought that the continued irritation of the bowels might be the cause of this. Appetite is much better than it was.

Seventeenth day. Has not rested well for the last two nights; pulse 120; no pain or tenderness anywhere, nor any diarrhœa. She is decidedly maniacal to-day, talking much unconnected nonsense, and crying at times, but is not at all violent or refractory.

Nineteenth day. Rested well; pulse 120; still maniacal, but is quieter and more composed to-day than yesterday; the bowels have been twice moved by castor oil.

Twenty-second day. Since yesterday the maniacal symptoms have left her, and she now appears to be in her sound mind, but is very weak, and the pulse above 108. Her husband and friends insisted on removing her from the Hospital to-day, though fully warned of the danger they would expose her to by so doing. No remonstrance or expostulation, however, would make them change their determination, and the poor woman was taken away. She herself was not reluctant to go. As great interest was felt in this woman's case, inquiry was made respecting her subsequent history, and it was ascertained that she continued to amend for some time, but that at the end of two or three weeks she was suddenly taken very ill with abdominal pain and febrile symptoms, under which she sank within three days.

We learned from this woman's husband that for some weeks before she came into the Hospital for her confinement she had suffered from headaches. She had no œdema, however, on admission, nor did she make the least complaint of headach or giddiness during the early part of her labour. The vectis was used after the first fit of convulsions, as it was a very severe one, and also because every condition was present that could conduce to the favourable use of the instrument. It will be remarked that she got two opiate enemata, but without any good effect, although their administration had been preceded by copious depletion. The occurrence of mania after convulsions, as happened in this and the case last related, is a circumstance which cannot excite the least surprise, considering the relation which subsists between the two affections, and the similarity of their exciting causes. Upon this point Dr. Collins observes, that mania "is occasionally the result when the fits have been severe, or have continued for any length of time after delivery."* And Dr. Merriman mentions having "known two or three instances of mania occurring as soon as the convulsions ceased, and remaining for some weeks, yet the patients ultimately got well.†

It is interesting to observe the order of succession in which the leading features of this case presented themselves. Thus, after the cessation of the convulsions, there were symptoms of incipient peritonæal or uterine inflammation. This was subdued in the course of a week or a fortnight, and then we find that puerperal mania supervened. Under care and proper management this also disappeared, and she regained her reason. Had she now been allowed to remain in the Hospital, it is highly probable that perfect recovery would have taken place; but at this period it was that her friends very injudiciously removed her to her own abode, where she had none of those comforts and attendance her situation so much required. The disposition to abdominal inflammation still continued, and (probably through some imprudent act) peritonitis was excited not very long after her return home, and proved fatal within three days.

No. 9.—B. K., a short, stout woman, with a thick neck, and

* Practical Treatise, p. 238.

† Synopsis, p. 140.

swollen face, admitted September 29, 1843, in labour of her first child. The pains commenced at 8 o'clock on the previous evening, and on the morning of admission, before leaving home, she had had three convulsive fits, and was in a fourth at the moment of entering the ward. This was a very violent fit, and thirty ounces of blood were taken in a full stream from the arm before it was subdued. During the interval which followed, three drops of croton oil and four grains of calomel were put on the tongue, and cold applications to the head. On examination, the os was discovered to be fully dilated, and the head at the brim of the pelvis. Owing to her increasing restlessness, it was useless attempting to hear the foetal heart. The fits very soon recurred, and she had eight of them in rapid succession, with complete insensibility during all the intervals. As her condition was most alarming, immediate delivery was resolved on, and effected by means of the crotchet. From the appearance and state of the child, it was supposed to have been dead for some hours. The placenta came away favourably. As she lay in a semicomatose state for nearly an hour after delivery, sinapisms were applied to the legs, and a stimulating enema was thrown up the rectum. She slept soundly during the remainder of the day, and in the evening was quite collected and rational; pulse 136. With the exception of diarrhœa and some severe headach on the fifth day, requiring the application of leeches, she recovered in a most favourable manner, and was able to leave the Hospital on October 15.

This woman's recovery was most satisfactory and gratifying, considering the number and severity of her convulsions.

We make no apology for inserting the following particulars of her subsequent history. On March 4, 1844, she was confined of her second child, a girl, at her own house, where she was attended from the Hospital, and narrowly escaped having an attack of convulsions: this was warded off by a full bleeding during labour. Some weeks previously she had been suffering so much from headach, and other marked premonitory symptoms of eclampsia, that she was taken into the chronic ward of the Hospital to ensure the strict adoption of preventive measures. Bleeding and purging, &c., removed the above symptoms, and she went home at the end

of five days. Her second child she nursed for thirteen months, and, before weaning it, had again become pregnant, but miscarried at the fifth month, in consequence of a fall. For some weeks before this event, however, she had a return of the violent headachs, the same as in the former pregnancies. At the present time (September, 1847) she is about three months gone in the family way, and already the headachs have commenced.

No. 10.—C. Q., aged 22, first pregnancy. About a month before the full term this woman presented herself at the Hospital to have her admission-ticket signed. Her appearance made us suspect that she was threatened with puerperal convulsions. At first she denied that there was anything the matter with her, through fear (as she subsequently acknowledged) of being bled; but on closer examination confessed that she suffered from occasional giddiness, flushing of the face, and severe headachs; and that for the last some weeks she had observed her face and hands to be swollen. This announcement amply confirmed our previous surmise. Twelve ounces of blood were taken from the arm, and some blue pill and purgative medicine given her. This treatment afforded great relief, but this was not permanent. She was, therefore, strongly urged to come into the chronic ward of the Hospital, but refused to do so, nor would she submit to further treatment, although the danger of her position was fully explained to herself and friends. Nothing more was seen of her until October 23, 1843, when, at midnight, she was admitted in labour. Some time after she had come in, and without any warning, she was seized with a severe fit of convulsions. As soon as this had passed off, she was bled to eighteen ounces. Upon examination, the head was found resting on the perinæum, and the ear close within reach of the finger. Under these circumstances, Dr. Johnson thought immediate delivery with the forceps advisable. They were accordingly applied, and the child (a boy) was extracted alive and strong. The placenta came off shortly after its birth. This was followed within a short space by a repetition of the convulsions, whereupon the arm was unbound, and blood drawn, until a marked effect was produced on the system. Notwithstanding the bleeding and cold affusion to the head, four more fits took place, following upon

one another in quick succession, and with gradually diminishing violence. An opiate enema was given after the venesection, and tartar emetic mixture so soon as she was able to swallow. Upon the cessation of the second fit, the left arm and leg were observed to be paralyzed. She lay in a lethargic state for nine hours, when she roused in some degree (apparently from the effect of a blister, which had been applied to the nape of the neck), and asked for a drink, but again lapsed into her former semi-comatose condition. At the same time that the blister was put on, some calomel was also administered to her, and mercurial ointment rubbed into the axillæ.

Second day. Since 2 o'clock she has been sensible to external impression, and now answers questions correctly. Early this morning, as she complained of severe pain over the right orbit, twelve leeches were put on the temple. The pulse is now 92, and has been nearly the same since delivery; tongue clean, and, when protruded, points to the left side; when drinking, part of the fluid escapes at this side of her mouth; the urine had to be drawn off with the catheter, and was found to be highly albuminous; bowels freely moved by an enema; the left eye seems turned slightly outwards.

Calomel, gr. i.

James's Powder, grs. ii., every second hour.

Mercurial frictions.

Vesperé. At 2, P. M., as she complained of severe frontal headach, with flushing of the face, twelve leeches were applied to the temples, and a cold lotion to the head: pulse 108; no abdominal pain; no lochial discharge; bowels well cleared out by an enema.

Legs to be stuped at bed-time.

Third day. Had a good night; pulse 88 and soft; pain in the forehead; thirst; bowels twice moved; has some frontal pain.

Pills, and cold lotion to head to be continued.

Diarrhœa came on in the course of the day, and an anodyne enema was therefore directed for her in the evening.

Fourth day. Pulse 80, and soft, seems to be somewhat confused in her intellect to-day, and mistakes individuals.

Stop the pills.

Twelve leeches to temples.

Cold lotion to head.

James's Powder, grs. ii., every second hour.

Mercurial frictions thrice daily.

Fifth day. Pulse 112; tongue dry; some uterine pain; more sensible; pain continues in the head; no signs of mercurialization, nor appearance of milk.

Abdomen to be stuped.

A blister to the temple.

Seventh day. Pulse 104; purging still present; had some acetate of lead in solution; face has nearly regained its natural appearance.

On the evening of the eighth day she seemed heavy and stupid, with hurried respiration. A blister was again applied to the nape, as the former one was nearly healed.

Ninth day. Pulse 142; diarrhœa; uterus tender; her perception seems very obtuse, and what she says is rather unconnected.

To have one grain of Digitalis, with two of Dover's Powder every four hours.

Turpentine stupe to the abdomen.

In the evening she seemed worse and more oppressed; pulse 132, small and feeble.

A blister to each calf.

Tenth day. Had an unquiet night; pulse 132; she protrudes the tongue when desired, but is very slow in retracting it, and the left side of her face seems less under the control of the will to-day than yesterday. She makes very imperfect attempts at speaking. Has been getting wine whey.

A blister to scalp.

The stupor and prostration continued to increase, and she expired the following morning without a struggle.

Autopsy, six hours after death.—In the right ventricle of the *brain* was found a large clot, surrounded by some fluid blood. The adjacent cerebral substance was softened in structure, and of a dark grey colour.

A large quantity of serous and lymphic effusion in *peritonæum*; *uterus* well contracted and healthy.

No. 11.—M. F., first pregnancy. This woman's appearance was such as to excite strong apprehensions that she would have an attack of convulsions. She had a short neck, full face, and œdematous condition of the upper extremities; but as she pertinaciously denied having any headach, either then or previously, it was not thought necessary to bleed her, but she was purged, and closely watched. Labour set in late on the afternoon of March 5, 1844, and the membranes ruptured soon after. Matters went on favourably, though slowly, this day and the following. At 4, A. M., of the 7th she got a convulsive fit. At this time the os was fully dilated, and the head some way down in the pelvis; foetal heart audible and distinct. She was immediately bled to twenty ounces, and ten grains of calomel were given, followed some time after by antimonial mixture. At 7 o'clock another attack of convulsions came on, but by re-opening the vein, and applying the cold douche to the head, its violence was greatly mitigated; she remained, however, in a semi-comatose state after the subsidence of the paroxysm. The most careful examination now failed to detect the foetal pulsations, and as the case was urgent and the head high in the pelvis, delivery was accomplished with the crotchet. Consciousness returned in a little time after delivery. Her recovery proceeded most favourably. On the second day it was thought necessary to apply a dozen of leeches to the right temple, on account of pain over the orbit. She was discharged on the 22nd of the month.

No. 12.—A. L., first pregnancy; delivered April 12, 1844. When the head of the child had begun to press on the perinæum, she suddenly got pain in the head, which was immediately succeeded by an attack of convulsions. She was bled to twenty ounces, and, as the case was most favourable for their use, the forceps were

applied, and a living girl extracted, though not without considerable difficulty, owing to her extreme impatience and restlessness. Some hæmorrhage preceded and followed the expulsion of the placenta. This woman made a good recovery. She was since confined in the Hospital, of her second child, and had a good labour, and speedy convalescence.

Some of her urine was drawn off with the catheter on the day of delivery, for the purpose of being tested. The presence of albumen was shewn both by heat and nitric acid. In some drawn off on the sixth day, the same re-agents failed to detect the existence of any albumen.

No. 13.—M. M., aged 20, first pregnancy; delivered May 27, 1844. There was some œdema of the face and upper extremities in this woman, but no headach, or other unfavourable symptom. Her labour was remarkably easy and short, being of only three hours' duration. At the usual time (third day) the secretion of milk began to take place, and was attended with some febrile excitement. At about noon on this day she was seized with a mild fit of convulsions, which lasted for three minutes, and was speedily followed by a return of sensibility. She was bled to twelve ounces. In three quarters of an hour a second fit occurred, preceded for a few moments by pain in the head. Blood-letting was again performed to a small extent, and antimonial mixture administered. She had only the two fits, and her convalescence proceeded without any further interruption.

This was an instructive case, and tends to shew that, where the disposition to convulsions exists, even delivery will not place the woman in security against their attack. No doubt, if she undergo a tedious or difficult labour, without the convulsions shewing themselves, it is highly improbable that they will subsequently occur, as this is a most powerful exciting cause. But, on the other hand, if the labour be short and easy (as was the case in the above patient), and that no hæmorrhage take place, or preventive measures be used, there still remains a probability of her being attacked at some time during the puerperal state. The febrile disturbance attendant upon the first secretion of the milk, apparently was the exciting cause of the convulsions in the present instance. In two of Dr. Collins's cases the convulsions did not take place till after

delivery. They were both primiparæ. Each had an easy labour, one of thirteen hours', and the other of only fifteen minutes' duration, and in each the attack came on five hours after the termination of labour.*

The subjoined table will be found to supply any particulars which have been omitted in the foregoing records, and will also exhibit at one view the leading features of each individual case. In the column headed "Mode of Delivery," the letter *n.* implies that it was natural; the letter *p.* that it was effected by the use of the perforator and crotchet; the letter *f.* by the forceps; and the letter *v.* by the vectis. The two superscriptions, "Before Delivery" and "After Delivery" have reference to the period at which the convulsions occurred. In other particulars, the construction of this table does not differ from those we have already given, so that the same explanation will answer.

Number of Case.	Age of Patient.	Hours ill.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Before Delivery.	After Delivery.	Mode of Delivery.	Result to Mother.	Observations.
1	20	10	1	G.	1	. .	1	N.	R.	V.
2	25	17	1	G.	D.	1	. .	N.	D.	V.
3	22	8	2	G.	1	. .	1	N.	R.	V.
4	25	18	2	B.	1	1	. .	N.	R.	V.
5	19	32	1	G.	D.	1	. .	P.	D.	V.
6	21	33	1	B.	D.	1	. .	P.	R.	V.
7	27	19	2	B.	D.	1	. .	N.	R.	V.
8	34	11	1	B.	1	1	1	V.	R.	V.
9	22	23	1	B.	D.	1	. .	P.	R.	V.
10	22	10	1	B.	1	1	1	F.	D.	V.
11	28	36	1	G.	D.	1	. .	P.	R.	V.
12	26	17	1	G.	1	1	. .	F.	R.	V.
13	20	3	1	G.	1	. .	1	N.	R.	V.

* Practical Treatise, p. 230.

RUPTURE OF THE UTERUS.

OF all the accidents that can befall the parturient woman, there is none held in such profound dread, or which is so uniformly fatal to both mother and child, as laceration of the uterus.

The records of science, it is true, contain some cases of recovery after this lesion; but the proportion that these bear to the number of fatalities is deplorably small,—just sufficient to keep us from utter hopelessness, and the inactivity of practice that would necessarily result from such a conviction. Formerly the diagnosis of this occurrence was seldom, if ever, arrived at, and the cause of death remained doubtful or unknown till revealed by examination of the body.* From this state of things it followed as a natural consequence that appropriate or indeed any special line of treatment was very rarely adopted, so that one cannot be surprised at finding the accident to have been regarded as necessarily fatal. As obstetric knowledge improved, however, the diagnosis of this formidable complication became better understood; and its characteristic symptoms being once known, the question of its treatment began to receive that consideration to which it was so justly entitled. Subsequently the occurrence of cases of recovery served to point out still more forcibly the importance of recognising the accident as soon as possible after it has happened. But although the sweeping mortality amongst these cases has of late years somewhat diminished under the influence of a more rational treatment, still laceration of the uterus is a danger of such magnitude, that it is most desirable we should be able to know when it was impending, so as to adopt measures calculated to prevent it, and thereby rescue the patient from her

* Upon this point M. Crantz (in his "*Dissertation sur la Rupture de la Matrice*," appended to the work of Puzos) observes: "*Dans toutes les observations fournies par les auteurs les plus célèbres, il n'y en a pas une seule où l'observateur ait prédit la rupture; j'ajoute même où il l'ait reconnue après l'événement avant l'ouverture du cadavre.*"

state of imminent peril. It cannot be denied that there are cases where the laceration occurs without any appreciable warning, by which it could have been foreseen or anticipated; but then these instances undoubtedly constitute the minority. It must be admitted, therefore, that the study of the premonitory symptoms is a subject well deserving of every attention that can be bestowed upon it, and one likely to be productive of solid benefit. The circumstances which we have been taught to regard as the harbingers of laceration of the uterus are the following:

1. Where, from the history of the woman's previous confinements, we are led to suspect the existence of deficiency of space in the hard passages. Thus, if there had been considerable difficulty in each of her former labours, and that the children were dead born, or only the females born alive,* these circumstances would afford tolerably certain evidence of the capacity of the pelvis being defective; and we believe it to be incontestible that this constitutes one of the most frequent predisposing causes of rupture of the uterus. Dr. Collins, in his *Practical Treatise*, remarks, "The dimensions of the pelvis, too, are, in such cases, for the most part, defective."—p. 246. And Dr. John Ramsbotham says: "In all the cases of this accident there is a narrowness, if not an absolute deformity of the pelvis, so that perforation of the head becomes too commonly indispensably necessary to the delivery."† Mr. Roberton (of Manchester) also has further shewn how influential pelvic deformity is in the production of uterine laceration.‡ The experience of Dr. Johnson and ourselves on this matter quite agrees with the opinions just quoted; at the same time we think, with Dr. Ramsbotham, that the accident in question is more likely to

* Dr. Joseph Clarke proved by actual experiment that the average size of the male foetal head is above that of the female. From this it plainly follows, that a pelvis which could admit the safe passage of a female child might not be capacious enough to allow an equally safe transit to a male. It is, moreover, a remarkable fact, referrible to the same general law, that lacerations of the uterus more commonly happen to women in labour of male than female children. Thus, out of sixty-three cases of laceration of the uterus, recorded by Dr. Collins, Dr. M'Keever, and ourselves, forty-six of the children were males, which is an average of about 73 per cent.

† *Practical Observations in Midwifery*, second edition.

‡ Mr. Roberton's most valuable paper will be found in the forty-second volume of the *Edinburgh Medical and Surgical Journal*.

be produced where the deformity of the pelvis is slight, than where it is excessive.

2. The researches of Dr. Murphy have led him to the conclusion, "that in most of the instances where rupture of the uterus occurs, it may be traced to morbid lesions either previously existing or produced by inflammation; and even in some cases where this cannot be satisfactorily proved from inspection, the history of the case would seem to indicate it."* Hence, a fixed local pain existing in the uterus for any length of time during pregnancy, and up to the time of labour, should be viewed with apprehension, as it may have been caused by some disorganizing process in the uterine substance, which will dispose it to give way under the expulsive efforts of parturition.

3. During labour the symptoms that might justly lead one to fear the occurrence of this accident are, constant and violent uterine action after the rupture of the membranes and discharge of the liquor amnii, without any corresponding impression being made on the fœtal head. These pains have been well described by Crantz: "*Les douleurs sont vraies, excessivement violentes, laissant tres peu d'intervalle entre elles, et cependant elles ne font point avancer l'accouchement. . . . Mais quand les eaux sont une fois rompues, les douleurs redoublent de violence, et elles sont continuelles sans que le travail fasse le moindre progrès, et par consequent, sans donner l'esperance d'une prompte delivrance.*"† We believe that rupture of the uterus never almost occurs during labour before the escape of the waters, and very rarely is produced in consequence of undue resistance of the os uteri.

4. The occurrence of a crampy pain in some part of the lower belly. This Mr. Robertson considers as a precursory indication of no small value. "From what I have observed, however, and learned from others, I am inclined to believe that a crampy pain and tenderness on pressure, in some particular part of the lower abdomen, precede for a time laceration of the uterus occurring under the circumstances I am now supposing, i. e. from deformity or tightness of the inlet."‡ From the result of a case which he details it would appear that this peculiar *crampy* pain is produced

* Dublin Medical Journal, vol. vii. (Old Series).

† Op. cit., p. 401.

‡ Loc. cit.

by the severe compression of the cervix uteri between the foetal head and pelvis. Dr. Douglas says that a violent pain in one particular point near the projection of the sacrum or the arch of the pubis should, more strongly than any other symptom, excite in the mind an apprehension of impending rupture.

5. Cramps in the legs very generally accompany the violent uterine action before spoken of, and, along with other symptoms, are to be esteemed premonitory of the accident in question.

In cases of the kind now under review, where two or more threatening symptoms are present, the responsibility that devolves on the accoucheur is very great, and the necessity he is under to act with the strictest prudence and circumspection must appear evident on a moment's consideration. The all-important practical questions that will over and over again recur to the mind are, "how long are we to rest satisfied with watching the efforts of nature?" and "what assistance does the case require?" The propriety of instrumental interference is in every instance a question of great moment, and in some its decision is encompassed by very serious and perplexing difficulties, all which must be duly appreciated and fairly balanced before we can come to any determination; and by such a course only can we acquit ourselves in a manner likely to secure us from future misgivings, or injurious criticism. The necessity of a consultation before taking any decisive step will at once suggest itself as a matter of the most indispensable importance, not only for the safety of the patient but also for the reputation of the practitioner.

In the cases of threatened rupture of the uterus that have come under our notice in the Hospital, the object diligently aimed at was to moderate the inordinate violence of the uterine contractions, or to arrest them altogether, in the hope that they would return with less violence and more regularity. With this intention a full bleeding was taken from the arm (unless there was something to contra-indicate it), whilst the patient was in the erect position; and afterwards a tolerably large opiate was administered by the mouth, or, if this failed, an opiate enema or suppository was given. The efficacy of venesection in subduing uterine action has been long known, and it has frequently been practised in cases of arm presentation, as a preparatory measure to the opera-

tion of turning. Before resorting to the employment of these remedies, tartar emetic solution was sometimes exhibited, as it very generally has the effect of diminishing the severity of the pains. By these means any degree of spasm will be removed, and the uterus may be brought to act in a more regular and normal manner; this will afford nature the fairest opportunity for surmounting the obstacle, and, at all events, will defer the period for resorting to instrumental delivery. Both experience and analogy lead us to believe that some of the muscular bands of which the uterus is composed may be affected with severe spasmodic contraction, sufficient even to occasion laceration. Hence the removal of such a condition is an object of no small importance.

It is a well-established fact, that women in their first pregnancies are very rarely the subjects of ruptured uterus. This is amply borne out by the experience of numerous observers, viz., Jos. Clarke, M'Keever, Ramsbotham, Robertson, Murphy, Ingleby, Johnson, &c.; and in all the instances of this accident that have come under our notice it was, with one exception, the woman's second or subsequent pregnancy.

Dr. Collins relates a very curious case, where laceration of the muscular substance of the cervix uteri took place during the delivery of a putrid five-month fœtus.* Rupture of the uterus at this early period of pregnancy must be an extremely rare occurrence, as very few instances of it are on record.†

We have never seen a case where the rupture occurred during gestation, but many such have been met with. An instance came under Dr. Johnson's observation some years ago, and as

* Practical Treatise, p. 277.

† Duparcque narrates three such, in no one of which was pregnancy so far advanced as the fifth month. (*Histoire complète des Ruptures de l'Uterus*, &c., p. 42.) M. Moulins presented to the Académie Royale de Médecine, in August, 1825, the uterus of a woman who died of rupture of this organ, induced by the efforts of abortion when two and a half months pregnant. (*Archives Générales*, vol. ix.) In the case detailed by Mr. Hott, spontaneous rupture took place in the sixth month of gestation. (*Med. Repository*, vol. vii.) Dr. Campbell alludes to a case where a woman, in the fourth month of her fifth pregnancy, had the uterus ruptured from a fit of passion, and subsequent violent exertion. (*Lancet*, October 11, 1828.) In Ramsbotham's eighty-eighth case fatal rupture of the uterus took place at about the fourth month of utero-gestation.

he has obligingly favoured us with its history, we beg leave to insert it here. A woman in the eighth month of pregnancy received a severe shock from a fall on the flags whilst carrying a kettle of water. She was brought to the Hospital the same day, being supposed by her friends to be in labour. On admission she complained of great weakness, pressure over the abdomen was painful, and her feet and legs were œdematous. There was evident fluctuation in the abdomen, which circumstance, together with her appearance, and the account given by her friends, led to the conclusion that some previous disease had existed. There were no labour pains, but the os uteri was a little dilated, and some slight muco-sanguineous discharge flowed from the vagina; but there was no vomiting or hæmorrhage. On the sixth day from the receipt of the accident she expired. Upon inspection the uterus was found ruptured at its fundus, from before backwards. The child had escaped out of the uterus, and lay in the cavity of the peritonæum, along with a large quantity of coagulated blood and the liquor amnii, which had occasioned the fluctuation. There was extensive peritonitis. The placenta was lying detached at the cervix uteri, and the membranes were adherent over the os.

A very singular and unique case of fatal rupture of the *vagina* at the end of pregnancy, and before the accession of labour, was communicated to the Dublin Obstetrical Society by Dr. Doherty.* We saw this case in consultation with Dr. D., who had been called in by the attendant practitioner, and were present with him at the inspection of the body. The prominent and, in fact, only symptoms were profuse hæmorrhage from the vagina, and slight pains like those of labour. At the *post mortem* examination the os uteri was found perfectly closed, and the uterus natural. No bloody effusion whatsoever into the abdomen. The rent in the vagina was small, and did not extend into the peritonæum; its situation corresponded with the right linea ileo-pectinea, which, however, was not sharper or more salient than natural. How the laceration could have taken place seemed a mystery, as there had been no external injury to account for its production. It was supposed that in consequence of the severity

* Dublin Hospital Gazette, May 15, 1845.

of her previous labour the vagina was in an unhealthy state,—which supposition was favoured by the appearance of the part,—and that some turn in the bed, whereby the uterus was made to suddenly fall over to the left side, had been the exciting cause of the solution of continuity.

The symptoms which develop themselves upon the occurrence of rupture of the uterus during labour are usually very well marked. The principal of these we shall enumerate, commenting upon each as we go along.

1. A sudden and acute pain in some part of the uterus, totally different in its character from the pains of labour, or a sensation of something giving way internally. On rare occasions this has been accompanied by an audible noise.

2. Vomiting, at first of the ingesta, and subsequently of a brown or coffee-ground liquid.* The occurrence of vomiting in the second stage of labour is always considered as an exceedingly grave symptom. Where it depends on rupture of the uterus it generally comes on suddenly, and is accompanied by some of the other symptoms of the accident. We have known three cases in which vomiting of coffee-ground fluid came on in the second stage, without there being any circumstance in the labour at all adequate to account for the appearance of so formidable a symptom. Each of these women had been subject to dyspepsia

* The true coffee-ground vomit, such as is seen in cases of ruptured uterus, and the advanced stage of malignant puerperal fever, consists of two distinct substances, a transparent yellowish liquid, and innumerable dark-coloured flocculi, which are suspended in the other, but with rest subside to the bottom of the vessel. In a case of rupture of the uterus, where this symptom was present in a marked degree, we preserved some of the vomited matter, and sent it to Dr. Moore, of South Anne-street, requesting he would have the goodness to analyse it. The result is best conveyed in his own words: "On examining with the microscope the specimen of coffee-ground vomit you sent me, I found it to consist chiefly of blood mixed with epithelium. I also perceived amorphous masses of a purple colour, and being undecided as to their nature, I gave a portion to Dr. Hill, who with great kindness carefully inspected it. I subsequently endeavoured to detect bile in the mixture by chemical means, but failed to do so. Blood and epithelium would, therefore, appear to constitute the great bulk of the specimen." In reply to Dr. Moore, Dr. Hill writes: "I find in the specimen you left me blood particles, a large quantity of epithelium, and small masses of a dark colour, which may be either the colouring matter of the particles, altered by the acids of the stomach, and entangled in the epithelium, or bile. I also find several groups of fibrillæ, resembling vegetable growths."

for a long time previously, and they all recovered well. We saw one case where dark vomiting came on before the os had begun to dilate. It was very severe, and no cause but the previously disordered state of the stomach could be assigned for its production. Owing to the great debility caused by the incessant vomiting, it was necessary to suspend uterine action for a time by opium. In the course of some hours, when the patient had taken sleep, labour recurred, and things went on most favourably.

3. The usual marks of extreme debility and prostration of strength, similar to those observed in cases of laceration of any other important internal organ.

This condition is not invariably present, for in one case of rupture of the uterus the patient (who was brought in a car to the Hospital) walked, leaning on two females, from the gate along the piazza, and up two flights of stairs, to the ward; and her appearance did not excite the least suspicion of the existence of the accident. (See Case 8.) On the other hand, the shock may be so great as to extinguish life within a very short period. Dr. Churchill told us of a case that had come under his knowledge, in which there was only an interval of five minutes from the occurrence of the laceration to the patient's death. In three of Dr. Murphy's cases there was an absence of many of the leading symptoms. The uterus was found softened in two of these, and the cervix thinned in the third; hence he says: "Perhaps we might assume that in these cases the uterus gave way gradually, and, therefore, with less shock to the constitution, rather than was torn abruptly, as is generally the case." The same author has also remarked, that the existence of inflammation at the time of the rupture is another source of obscurity and indistinctness in the symptoms.

4. A distended and extremely painful state of the whole abdomen. The existence of these symptoms has been described by authors as very uncertain, being present on some occasions and absent on others; but this will mainly depend, we believe, upon the period at which the woman is seen after the accident, as some space of time is required for the above condition of the abdomen to become developed. It may arise, however, with more rapidity

in one case than another, according to the extent and situation of the rupture, the amount of extravasation, and other accidental circumstances.

5. Sudden cessation of labour pains. There is abundant proof that this result does not invariably follow laceration of the uterus, at least on the instant; and in some cases even the expulsion of the child has been effected by the natural efforts after rupture had taken place. The gradual declension and final cessation of pains towards the close of a protracted or difficult labour, must not lead to the mistake that rupture has occurred, although indeed, as far as regards the treatment, this might be an error of small magnitude. We have seen complete and sudden arrest of uterine action to supervene upon the giving way of a band in the vagina, and in another case the pains abruptly ceased at the end of fifteen or sixteen hours, without any obvious or assignable cause. Again, it is well known that in the course of a tedious labour the pains may spontaneously cease, and the uterus remain quiescent for a considerable time, when it resumes its contractions. "Even when a labour has made considerable progress, and there was reason to expect that it would have been concluded in a short time, there may be a suspension of the action of the uterus for many hours, without any mischief or hazard, as experience has often shewn, though the cause of such suspension may not be obvious to or explicable by us."—*Denman*.

6. Discharge of blood from the vagina. Hæmorrhage in the second stage of labour may, as we have before observed, arise from other causes besides rupture of the uterus; nor is it by any means a constant or striking symptom in cases of this accident. Hence, in itself this sign is entitled to no confidence, and is only deserving of such when occurring simultaneously with some of the other symptoms of rupture.

7. Recession of the presenting part. This, we believe, cannot take place to any great or marked extent unless the uterus has been ruptured, though certainly on one occasion in the Hospital, where a strong cicatrix, which had for a considerable time impeded the advance of the head, suddenly gave way, the presenting part very palpably receded some distance. This occurrence very often does not happen after laceration of the womb,

and such may be expected where the head is impacted in the pelvis, or low down in its cavity.

8. The limbs or body of the child discernible in the abdominal cavity. Of all the symptoms that have been enumerated this is the only one which, when taken alone, furnishes unequivocal and demonstrative evidence of laceration of the uterus. It is not likely that, with ordinary care and discrimination, one can be deceived regarding this sign, by supposing it present when it really is not, or mistaking the limbs of the child for anything else. It is necessary to bear in mind, however, that the uterus may be ruptured, and no part of the child escape from its cavity. Crantz has made the observation, that the child is less apt to pass into the abdomen through the rent, in a case of cross-birth, than where the presentation is natural; but we can see no reason for this. The same author has also described, with apparently much precision, the symptoms that will be produced according to the particular viscus against which the fœtus may press, after it has got into the sac of the peritonæum; but upon this point we cannot pretend to any knowledge, nor do we consider it to be one of the least importance as to diagnosis or treatment. The uterus generally contracts on the fœtus in proportion as it passes out through the tear; so that when the state of the belly admits of such an examination, the globular uterine tumour will be distinguished on one side or other of the child's limbs, which are felt immediately beneath the abdominal parietes.

9. It is a well-established fact, that, in ruptures of the uterus, the child almost invariably perishes within a very limited space of time after the occurrence of the accident.* A knowledge of this

* In two of Dr. Collins's cases the fœtus was born alive after this accident had occurred; but these, we think, may be almost regarded as the exceptions which prove the rule; for, in one of them, the uterus burst during the delivery of a child by the feet, on account of placenta prævia; and in the other there was merely a small portion of the muscular structure of the organ rubbed away by the attrition of the child's head in a tedious labour, and no unfavourable symptom shewed itself till the fifth day. In the first of these examples there could only have been an interval of two or three minutes from the moment of the laceration until the birth of the child; whilst the second case is scarcely deserving of the name of rupture, as the bare possibility of such existing was not suspected, and no untoward symptom whatever manifested itself before the fifth day. At

circumstance at once suggests the employment of the stethoscope as a source of diagnostic information in doubtful cases of ruptured uterus; but it is more particularly valuable in distinguishing some other accidents and complications of labour from this graver one, with which they may be confounded, from their possessing many symptoms in common. We have witnessed two or three instances in which symptoms of a very alarming character, and such as were calculated to excite suspicion of rupture of the uterus, arose during labour; but in each of these the persistence of the foetal cardiac sounds led to the conclusion that laceration had not taken place, a diagnosis that was subsequently proved to be correct. By way of illustration, we shall briefly narrate one case that very well exemplifies the truth of the above remarks. This was a case wherein labour was rendered difficult in consequence of the existence of a firm band at the upper part of the vaginal canal, the result of inflammation and sloughing in her previous confinement. Some time after the full dilatation of the os uteri the pains, which had been exceedingly violent, abruptly ceased; a discharge of blood took place from the vagina, the pulse fell, and the woman became weak, and vomited. On examination, it was found that not only had the band given way, but also that the head (the presenting part) had perceptibly receded. This combination of symptoms excited strong fears that some laceration of the cervix uteri had taken place,—a complication, we may remark, much to be apprehended in such a case as this, and of which Dr. Collins's fourth case furnishes a good example. Upon making an auscultatory examination, however, the

the Sheffield Medical Society Mr. Thomas detailed a case in which the child was born alive three hours and five minutes after the occurrence of a small laceration of the fundus of the uterus, from which the woman recovered. (*Prov. Med. Jour.*, December 23, 1846.) Dr. Thomson, of Edinburgh, has favoured us with the particulars of a case of rupture, or, more properly speaking, fissure of the os uteri, in which the child was born alive by the natural efforts about twenty minutes after the occurrence of the laceration. Of this he says: "It must have involved the structures of the uterus alone, as the recovery was excellent, indeed, without one bad symptom." A notice of this case appeared in the *Monthly Journal of Medical Science*, for April, 1847. We do not think that cases such as this at all lessen the practical value of auscultation as above recommended, for the persistence of the pains and the result of the case amply proved how small a degree of injury had been sustained.

fœtal cardiac sounds were distinctly heard, and possessed their ordinary character; and from this circumstance mainly it was inferred that the uterus was not implicated in the laceration, an opinion which was verified by the result. The fœtal heart subsequently ceased, though not for several hours, and then apparently in consequence of the length of the labour. She was ultimately delivered with the perforator and crotchet, when it was discovered that the tear extended completely through the vagina into the rectum, but did not engage the os or cervix uteri. This woman recovered and bore children afterwards. No comment is necessary upon this case, as it shews in a strong light the value of the diagnostic at present under consideration.

How long the fœtus may survive the accident is a question we do not feel competent to determine; but certain it is that in the majority of cases the period is very short. In Dr. Collins's thirty-first case the fœtal heart had ceased to be audible within ten minutes after the laceration, and a nearly similar circumstance once happened under our own observation. To sum up the value of this sign, then, we would say, that in cases simulating rupture of the uterus, the persistence of the fœtal heart's sounds is a strong proof against the occurrence of the accident, and the more advanced the period at which they are audible after the setting-in of bad symptoms, the more conclusive is the evidence that rupture has not taken place; whilst, on the other hand, the sudden cessation of the fœtal pulsations, where they had been distinctly audible a short time previously, would strongly corroborate other existing symptoms of laceration of the uterus.

In concluding this review of the symptoms of ruptured uterus, we cannot do better than borrow the language of Dr. M'Keever. "From what I have stated in the preceding pages," observes this author, "we may perceive in what obscurity lacerations of the uterus and vagina are at times involved, and, of course, how necessary it is, before coming to any determinate conclusion, that a careful and accurate inquiry should be made into the whole history of the case, not deciding hastily, or from individual symptoms, but after a minute and careful investigation into every circumstance connected with the state of the patient. Such pre-

cautions will, of course, be doubly necessary where we have not been in attendance from the commencement, but are merely summoned to the patient from the emergency of the moment."*

The *treatment* of this complication may, for the sake of convenience, be considered with reference to two separate periods, viz., before and after delivery. Respecting the treatment in the first of these periods there seems to be but one opinion entertained by all modern authors, namely, to effect delivery as speedily and gently as possible, and, after this has been accomplished, to remove the placenta, should it not come away of itself within a very short space of time. In performing this latter operation particular care is necessary, and the hand should invariably be guided along the funis; if this be disregarded it may pass out through the rent. Whilst in the uterine cavity it is well to ascertain the size and situation of the laceration; but if this cannot be satisfactorily done then, the hand should be afterwards introduced for this purpose, but more especially to guard against the danger of leaving any protruded portion of intestine unreduced, and also to place the edges of the wound in apposition. In only one instance have we ever seen any difficulty in the removal of the placenta, and in by far the greater number of cases it came away of itself.

There are three different ways in which patients with rupture of the uterus have been artificially delivered, viz., by turning, by the use of the forceps, and by the use of the perforator and crotchet. The Cæsarian section is so very rarely necessary, as not to require any particular notice. The first of these is exclusively applicable to those cases where the presenting part has receded out of the pelvis; and, under such circumstances, it is the only practicable mode of delivery *per vias naturales*. The uterus is seldom found to offer any material resistance to the passage of the hand on these occasions, even though it should have been acting strongly for hours before the rupture occurred. The plan already recommended, of bringing down only one foot in cases of turning, is to be strictly adhered to in these instances. If the foetus have slipped into the peritonæal cavity

* Practical Remarks on Lacerations of the Uterus and Vagina, London, 1824.

it must, of course, be followed, and the foot, or knee, be carefully sought for. Particular caution is necessary when extracting, not to include a portion of the intestines or omentum, and this will be best insured by seizing only one limb. As the capacity of the pelvis is generally defective in women who are the subjects of this accident, it is not uncommon for the head to be arrested in the brim, after the birth of the limbs and body. If, in this case, the head cannot be extracted without much difficulty, it is better to lessen it with the perforator than to expose the patient, in her present state, to any avoidable pain or violence. Upon the propriety of this step there can be hardly a second opinion, as the child is almost invariably dead; but, should any doubts exist, the question may at once be set at rest by examining the funis and foetal heart. The exact situation usually selected for the introduction of the perforator is behind the ear, at the junction of the lambdoid and squamous sutures; but if the head be high up it will be by no means easy to reach this part. In two or three instances, where this difficulty was experienced, the perforator was made to penetrate the base of the skull, and in this way exit was given to the brain. A crotchet was in the first instance fixed upon the lower maxilla, by which the head was kept steady, and more facility afforded in using the perforator; this was passed into the mouth, and then thrust up behind the hard palate through the sphenoid and occipital bones.

Delivery by the forceps can very rarely be eligible in cases of ruptured uterus, if what we have already stated be true,—that the child dies very soon after the accident, and that the pelvis is generally undersized in these women. Still we hold it within the limits of possibility for a case to arise, in which,—*if* the pelvis was well-formed and the practitioner on the spot at the moment of the laceration, and *if* he at once recognised it, and lastly, *if* he had the forceps at hand and applied them without delay,—the child might be saved. We once saw the instrument used under all these favourable conditions in a case that occurred in the Hospital, but the child, though extracted without difficulty, was still-born, and could not be resuscitated.

In the immense majority of cases, therefore, where the head does not recede after the rupture has taken place, delivery is to be

effected by the perforator and crotchet. Very little skill is required in this operation, should the head be locked in the pelvis; but if it be free, or high up, then, indeed, there is need of much caution, lest under the application of the perforator it should recede altogether out of reach.

In order to avoid this disagreeable occurrence, which necessitates the introduction of the hand, three precautions must be attended to: first, steady pressure should be made by an assistant on the uterus, just above the pubes; second, the instrument should be *insinuated* very gently into the head; and, lastly, the admirable rule laid down by Dr. M'Keever should be strictly adhered to, viz., to make the opening in the cranium "not in the most prominent point of that cavity, as in ordinary cases, but rather to one side, so that the force employed in perforating may be directed, not towards the axis, but rather against the walls of the pelvis." In effecting this, great advantage will be derived from using that form of perforator whose cutting extremities are curved on the flat.

Respecting the after-treatment of this complication we have but few observations to offer here, as the plan that was pursued in each of the cases will be detailed further on. Judging from analogy, one would be inclined to think that the opium treatment held out a fair promise of success, but we only know of two cases where it has been employed with a favourable result.* In Dr. Collins's two cases of recovery, copious leeching, free purgation, and diligent stuping, seem to have constituted the chief part of the practice.

It is a well-established point in the pathology of this accident, that the cervix uteri is more frequently implicated in the laceration than any other part of the organ. Two reasons may be assigned for this: first, the os and cervix do not participate in the

* One of the cases here mentioned has been already alluded to, and will be found in the Provincial Medical and Surgical Journal, for December 23, 1846: the opium, in this instance, however, was combined with small quantities of calomel. The other case occurred in this city, and is recorded by Dr. Mitchell, in the twenty-second volume of the Dublin Medical Journal. Our friend, Dr. Murphy, of London, was, we believe, the first physician who made trial of repeated doses of opium in the treatment of ruptured uterus. His case, though not successful, was encouraging to the practice. See Dublin Medical Journal, vol. xv. p. 489.

active contractions of the fundus and body during labour ; and, second, the pressure occasioned by any narrowing or irregularity of the pelvic brim must be exerted upon this part of the womb. Laceration of the fundus is, comparatively speaking, extremely rare, and generally takes place, we believe, during gestation. Dr. Collins states that he has " never seen an instance where the fundus was ruptured ; nor did Dr. Clarke, during his residence in the Hospital, meet with such an occurrence." Of this unusual variety the case communicated to us by Dr. Johnson, in which the uterus was ruptured by a fall in the eighth month of pregnancy, was a good example ;* and in the Museum of the Royal College of Surgeons is the preparation of a uterus ruptured at the fundus. The following is an abridgment of Dr. Houston's history of this case: " The patient fell accidentally across a form, against which her abdomen struck with considerable violence. She experienced severe pain at the moment of the accident, and quickly fell into a state of collapse. In a short time reaction set in, and labour pains came on ; no progress, however, was made ; the os uteri remained rigid ; and death took place in a few hours. . . . The fundus uteri was ruptured in an oblique direction, from before backwards, to the extent of four inches, the edges of the rent being ragged, and widely separated."†

The solution of continuity commonly involves all the structures of the uterus, but may be confined to the muscular or serous tissue only. Of each of these latter varieties we give two instances. Laceration of the peritonæal coat of the uterus was first noticed and described by Sir Charles Mansfield Clarke, in the year 1812, and since then many instances have been recorded. Several cases have occurred in which a portion or the entire of the os uteri has been detached during labour, and, nevertheless, without involving the life of the patient. Mr. Scott's case is very well known. Here the entire circle of the os came away before the birth of the child, and was followed by most of the symptoms

* This case is mentioned in Dr. M'Keever's Essay, No. 13.

† " Descriptive Catalogue of the Preparations in the Museum of the Royal College of Surgeons in Ireland, 1840."

of ruptured uterus.* A case nearly similar to this has been detailed by Mr. Hugh Carmichael, in the sixteenth volume of the Dublin Medical Journal.† Dr. Davis, of Newry, has also published the history of a case where a large portion of the os was detached during labour, and subsequently sloughed off.‡

Nine cases of laceration of the uterus presented themselves in the Hospital during the period over which our Report extends, and they all terminated fatally. *Two* of these women were delivered by the natural efforts; *one* by the forceps; *two* by the perforator and crotchet; and *four* by turning. In two cases where version had been performed, it was also necessary to perforate the head before it could be brought through the pelvis. In one instance the face presented; in two cases the face was towards the pubis; and in all the others the vertex was the presenting part.

Eight of the children were boys, all born dead, and one of them putrid; *one* child (a girl) was born alive. In *four* cases the accident occurred before the patients were brought to the Hospital. *One* woman died in nine hours after the accident; *one* in fifteen, and *one* in sixteen hours; *two* died on the second day; *two* on the third day; *one* on the fourth day; and *one* on the fifth day.

We shall now submit a brief history of each of the above cases, confining our details to the leading points.

No. 1.—C. C., fifth labour. This woman came from a considerable distance to the Hospital, and was much fatigued in consequence. Her previous labours were favourable, and her general health had been good; at least she had only suffered from some pain behind the left hip. When admitted, at 5, A. M., of Janu-

* Medico-Chirurgical Transactions, vol. xi. Dr Merriman has inserted this case in the appendix to his work on Difficult Parturition.

† Its history is embodied in an article by Dr. Power.

‡ Dublin Medical Press, January 15, 1845. The same accident happened to a patient in the Hospital, in Dr. Kennedy's mastership, but he did not wait for the process of sloughing to take place, for with the aid of a bistoury he completed the separation at once. The woman recovered, and the excised portion of the os has been preserved in the Museum at the Lying-in Hospital. See Reports of the Pathological Society, Dublin Medical Journal, vol. xv.

ary 9, 1842, the os uteri was about half dilated. At half-past 9 o'clock the os was fully opened, and the head was presenting in the third position, but the pains, though strong, produced no effect on the head. At 1 o'clock the catheter had to be passed, and it was found that the head was pressing considerably on the urethra. The foetal heart could not be detected at this time, or subsequently, although it had been distinctly audible at an early period of the labour. At 2 o'clock the uterine action was very feeble; and at 3 o'clock had entirely ceased. At this period she vomited, and some bloody discharge came from the vagina. As the symptoms were such as to excite much uneasiness, if not apprehension, she was now delivered with the forceps. The child (a male) was dead. The placenta came away naturally at 4 o'clock, and on introducing the hand after its removal, a large rent was discovered in the cervix, and implicating also the vagina. From the time of delivery she complained of great pain in the abdomen, and suffered much from loss of rest, although a full opiate had been exhibited. The abdomen was very tumid, and more painful; hiccough and vomiting followed; signs of collapse began to shew themselves; and at midnight of the 10th she expired.

Autopsy.—Signs of commencing peritonitis. In the left posterior wall of cervix uteri was a longitudinal rent, of about four inches in length, and running into the vagina. The pelvis appeared of the natural size.

No. 2.—M. B., third labour. This woman was admitted at 12, P. M., of January 31, 1842. The os uteri was then dilated to the size of a crown-piece, and the membranes unruptured. No presentation discernible. Uterine action continued strong from this time, and with each pain she complained of cramps in her thighs. At 7, A. M. (February 1st), the pains suddenly and entirely ceased, but there was no hæmorrhage or vomiting; the head was found presenting, face to pubis, and the foetal heart was no longer audible. In consequence of these symptoms, and her extreme weakness, immediate delivery was determined on, but upon attempting to perforate the head, it receded in spite of every precaution, and it became necessary to introduce the hand and deliver by turning. During this operation there escaped a good deal of dark,

bloody fluid from the vagina. Symptoms of collapse succeeded rapidly, and at 10, P. M., death took place.

Autopsy.—In the abdominal cavity there existed a large quantity of clotted blood. In the cervix uteri, corresponding to the left sacro-iliac symphysis, was a longitudinal rupture, extensively involving the vagina. The oblique and transverse diameters of the pelvis were normal, but the conjugate was under four inches. In her first labour this woman was fifty-six hours ill, the child was a female; in her second labour the child was a male, and she was only six hours ill.

No. 3.—M. C., second labour. This woman's first labour was difficult, and she had to be delivered with the perforator and crotchet, in consequence of some pelvic deformity. She afterwards had an attack of peritonitis, from which she slowly recovered. On the present occasion, when admitted at noon of April 1st, 1842, the os uteri was fully dilated, and a scalp tumour had partially formed. The pains were neither vigorous nor frequent, and she was quite free from any fever or excitement. At 10, A. M., of the 2nd, a sudden change came over her; she began to vomit a dark fluid; the pains ceased; the foetal heart was no longer audible; and the pulse became rapid and small. Instant delivery was effected with the perforator and crotchet; but it was not without much difficulty the head could be prevented from receding altogether. The placenta came away naturally in twenty minutes.

Second day. Makes no complaint of abdominal pain; pulse and respiration frequent; a fetid red discharge flows from the vagina. Pills of calomel and James's Powder were given every second hour, and an anodyne at night.

Third day. Slept a short time during the night; diarrhoea has come on, so that the pills have to be omitted.

Mercurial frictions every three hours.

At noon the pulse began to fail and the belly to become tympanic, and at 5 o'clock, P. M., she breathed her last.

Autopsy.—Abdomen very large; peritonæum healthy. Exactly opposite the promontory was a transverse tear in the cervix, immediately above the posterior lip of the os, and confined to the

muscular structure of the part, leaving the serous membrane intact. The anterior lip was also slightly torn in a longitudinal direction, and the anterior wall of the uterus was one mass of slough. The antero-posterior diameter of the brim of the pelvis measured three inches; the oblique five and one-eighth inches; and from the promontory of the os sacrum to the tip of the coccyx was also five and one-eighth inches.

No. 4.—M. R., fourth labour. On coming into Hospital the os uteri was but little dilated, and the membranes ruptured. Uterine action did not set in until the third day after her admission. The pains seized her at 4, P. M., and in seven hours she gave birth to a still-born male fœtus, and the placenta soon followed. About an hour before delivery she had a very severe rigor. Symptoms of collapse, with a sensation of tightness in the abdomen, and pain in the cardiac region, came on very soon after the birth of the child. This depression rapidly increased; the pulse began to flag, notwithstanding the administration of active stimuli, and in nine hours from delivery dissolution took place.

Autopsy.—In the abdominal cavity was some light, straw-coloured effusion. The uterus was large; in its serous coat, nearly opposite the projection of the sacrum, were two transverse rents. That on the left side was the larger of the two, and neither of them engaged the muscular structure to the slightest extent. In the os uteri were several small fissures.

Measurements of pelvis:

Antero-posterior diameter, . . .	$3\frac{7}{10}$ inches.
Transverse and oblique, . . .	$5\frac{8}{10}$ „
From sacrum to coccyx, . . .	$5\frac{2}{10}$ „

The *head* and *chest* were examined, but presented nothing abnormal.

No. 5.—S. F., fourth labour; admitted November 11, 1842, at 7 o'clock, P. M.; labour began at 3, P. M., of the day preceding her admission, and the pains continued strong until midnight, when the membranes ruptured. At the expiration of two hours from this time the pains, which were most violent, suddenly ceased, a slight discharge of blood took place from the vagina, and the movements of the fœtus were no longer perceptible; the abdomen very soon after became swollen and very painful.

On admission her pulse was imperceptible at the wrist; the countenance pale and collapsed; great prostration of strength; and some hæmorrhage from the vagina. The outline of the child could be distinctly recognised through the abdominal parietes, and on examination the face was felt presenting at the brim of the pelvis. As soon as her strength had rallied, an attempt was made to perforate, but the head instantly retired out of reach, whereupon delivery was effected by version. The child had escaped into the abdominal cavity. After the extraction of the foetus, the placenta was found lying in the vagina, and as soon as it was removed the existence of an extensive rupture in the cervix and vagina was discovered. She got two grains of opium after the completion of the operation, and slept soundly the whole night.

Second day. Pulse 100; is inclined to sleep; pain in her sides; fulness and tension of the abdomen; voided urine; bowels not moved since delivery.

To have pills of Calomel and Opium every three hours, and a warm bran poultice to be kept on the belly.

Vesperé. Pulse 102; tongue dry; no motion from the bowels; can turn on her side; abdomen more distended.

Mercurial frictions.

To continue the pills.

Third day. Pulse 108; slept during a part of the night; great pain in abdomen, and frequent eructations of wind; bowels not yet affected; tongue dry and furred.

To have a purgative enema.

Pills and frictions to be continued.

Vesperé. Pulse 112, feeble; bowels moved three times by the enema.

Calomel. gr. ii. et

Ext. Opii Aquos. gr. i. ss. h. s.

Fourth day. Slept tolerably well; considers herself better, though she is extremely feeble; pulse 120; abdomen more tumid;

slight moisture on the surface; tongue dry. She continued in this state until 3, A. M., of her fifth day, when she began to sink, and expired at 4 o'clock in the afternoon.

Autopsy.—Extensive peritonitis; much lymph, and dissolved, semi-putrid blood in the abdominal cavity. Extending from the left broad ligament of the uterus to the middle of the vagina, anteriorly, was an enormous laceration.

No. 6.—A. M., sixth labour. On coming into the Hospital at 6, P. M., December 7, 1843, the membranes ruptured, and at 8 o'clock the pains were natural as to strength and frequency, so that she seemed likely to be soon delivered. At 4, A. M., of the 8th, the uterine action became suspended, she vomited some greenish and yellow fluid, and was seized with great prostration of strength. The head was found to have receded considerably, and her general aspect plainly shewed the nature of her case. On endeavouring to introduce the perforator the head slipped away, although every means was used to prevent this happening. The hand was passed up, and the child extracted so far only as the head, which stuck fast in the pelvis, and had to be lessened with the perforator. The child (a boy) was putrid. All her previous labours had been slow, but the children, with one exception, were born alive. Four of them were boys, and one a girl.

She lingered on in a very weak state until the second day, when death took place. The uterus was found ruptured on examination *post mortem*, but further particulars were not preserved.

No. 7.—M. A., sixth labour. This woman came a distance of several miles from the country, where she had been in labour, under the care of an ignorant midwife, from the morning of September 24. When admitted on the 26th (1844), at mid-day, her appearance was most unpromising. There was a small, rapid pulse, a tympanitic and painful state of the abdomen, retention of urine, and complete suspension of uterine action. The head was low in the pelvis, so that the ear could be touched, though not without much difficulty, owing to the swollen and tender state of the soft passages; a yellow, offensive discharge came from the vagina, which part, together with the labia and perinæum, were

in a state of high inflammation. The foetal heart could nowhere be detected.

As soon as her strength was in some degree restored by stimulants, &c., delivery with the perforator and crotchet was effected. Upon passing up the hand, subsequent to the expulsion of the placenta, an enormous laceration was found to have taken place in the left side of the cervix. Soon after the removal of the child and the placenta she had a very severe rigor; profuse perspiration succeeded this, and continued all night.

Second day. Much tympanitic swelling, and pain of the abdomen; uterus large and tender, particularly at the left side; retention of urine; countenance prostrated; bowels not moved since admission.

Mercurial frictions.

To have a dose of Oil and Turpentine.

Vesperé. Pulse 132; complains greatly of "a load upon her heart;" bowels not affected.

Purgative enema.

Third day. One large faecal motion this morning; belly un-reduced in size; pulse 126, and feeble; some nausea. In the evening she began to sink, and at noon on the following day expired.

Autopsy.—Great flatulent distention of stomach and intestines. Some yellow serum in peritonæal cavity. The serous covering of the uterus was unbroken, but underneath the left broad ligament was extravasated a large quantity of blood, which had escaped from an extensive laceration in the left side of the cervix uteri.

No. 8.—R. G., fifth labour; came to Hospital November 22, 1844, at about 3 o'clock in the afternoon. Having alighted from the car she walked up to the ward, leaning on two women. She seemed feeble, but beyond this there was nothing about her to excite particular attention. It appeared that she had been in labour since the morning before, but that at 4, A. M., of the day of admission, the pains, which until then were strong and ac-

accompanied with cramps in the legs, abruptly ceased, a violent pain seized her in the back, and there occurred some hæmorrhage. Her condition immediately after admission was as follows: the pulse was scarcely perceptible; the extremities cold; the head of the child was not in the pelvis, and, when touched, instantly receded; foetal heart inaudible; the os uteri felt flaccid, and not completely open; some red discharge; occasional vomiting of coffee-ground matter. After restoring her strength by the usual remedies, an attempt was made to fix the head and perforate, but without success; turning was, therefore, resorted to. Great difficulty was experienced in bringing down the arms, and the head became so firmly locked in the pelvis, that it was necessary to perforate before it could be withdrawn. The placenta was thrown off soon after the extraction of the child. Nothing that was tried would allay the irritability of stomach, and it continued to annoy her until death. This event took place the following morning at 7 o'clock.

Autopsy.—A considerable quantity of bloody effusion into the abdominal cavity. In the anterior wall of the cervix uteri was a large rent, which extended down so as to engage the vagina.

Measurements of pelvis:

Antero-posterior diameter, . . .	$3\frac{1}{2}$ inches.
Oblique ,, . . .	$4\frac{7}{8}$,,
Transverse ,, . . .	$5\frac{1}{8}$,,

Of this woman's former children three were males and two females: the first child was still-born, after a protracted labour.

No. 9.—The morbid appearances in this and Case 4 were of precisely the same nature, viz., laceration of the serous coat of the uterus. In the present case, however, it was the consequence of external violence, and the child was born alive. These two cases should not have been separated, but through an oversight, which it was too late to rectify when discovered, they have been detailed in different places. For the full particulars of No. 9 see Case 1. under the head of "Natural Labour."

The following table contains the leading particulars of the nine cases of Rupture of the Uterus, whose histories we have just concluded.

Number of Case.	Age.	Hours ill.	Number of Pregnancy	Sex of Child.	Alive or dead.	Mode of Delivery.	Result to Mother.
1	35	26	5	B.	D.	F.	D.
2	32	8	3	B.	D.	T.	D.
3	33	30	2	B.	D.	P.	D.
4	32	7	4	B.	D.	N.	D.
5	29	30	4	B.	D.	T.	D.
6	30	19	6	B.	D. p.	T.	D.
7	34	58	6	B.	D.	P.	D.
8	34	36	5	B.	D.	T.	D.
9	30	2	3	G.	l	N.	D.

The following case of threatened rupture of the uterus we insert here, as being the most appropriate place.

A. G., ætat. 35, admitted in labour of her seventh child, June 25, 1844. She is a short, round, and very plethoric woman. In her last confinement (May, 1843) she had to be delivered with destructive instruments, on account of difficulty in the labour. Her first three children (girls) were born alive, but all subsequently were still-born. Pains commenced at 5, P. M., and at 7 o'clock the waters came away, whereupon there ensued most violent uterine action. The os was about half opened, but felt soft and dilatable, and the head was not pressing upon it with any degree of force proportionate to the pains; the sacral promontory appeared rather salient, as it could be readily touched with the finger. At 10 o'clock matters were in the same state, the uterine action was most violent and unceasing, and she had occasional cramps in the limbs. It was evident that these violent and irregular pains should be moderated, else rupture of the uterus would in all probability take place. She was, therefore, largely bled, so as to produce syncope, and she subsequently got forty drops of *Acetum Opii*. By these means the force of the pains was greatly subdued. At this time the foetal heart was audible. At 12 o'clock (midnight), as the pains were regaining their former character, she got an opiate enema containing twenty-five minims of laudanum: and at 4, A. M. (26th), she got an opiate suppository, in order to keep the action of the uterus from acquiring too great a degree of intensity. At noon she vomited, and the pains ceased for awhile. This at first created some alarm,

but it was only temporary, as they speedily became as strong and violent as before, but had not the least effect on the foetal head, which remained at the brim of the pelvis. At this time she was extremely restless, tossing herself about the bed, and exclaiming that she should die if something were not done for her. The vaginal discharge was dark-coloured and fetid, and the pulse 120. Dr. Labatt now saw her in consultation with Dr. Johnson, and from a careful review of all her symptoms they were of opinion that it would be unsafe to leave her for any time longer unassisted. The frequency of the pains, together with her own restlessness, quite precluded the possibility of making any stethoscopic examination: when the foetal heart was last heard (two hours before) it was weak and rapid. The head was lessened, and extracted with the crotchet. The operation was one of some difficulty, owing to the high position of the head in the pelvis. On the tenth day she left the Hospital quite well.

The pains which this woman suffered were of the most violent kind we have ever witnessed: there can be little doubt, however, but that the uterus was acting irregularly or spasmodically; for otherwise the head would have been forced into the pelvis, and would then probably have become impacted.

PLURAL BIRTHS.

THERE are numerous marks commonly considered to indicate the existence of two fœtuses *in utero*, such as an unusually large size of the abdomen; thinness of the uterine walls; a perceptible sulcus running longitudinally in the uterus; various anomalous sensations on the part of the patient, &c.; but all these signs are fallacious, and can in nowise be relied on. Nor, even, is it sufficient evidence to detect fœtal pulsations at two separate parts of the abdomen, for this, as we ourselves have had occasion to observe, is quite possible where there is only one child in the uterus. But if there is a *want of synchronism in the beats as heard at the two points*, then no further doubt can be ascertained as to the presence of twins; such, at least, is the result of our experience.* The solution of the question, however, is of no great practical importance until the first child is born, and by that time all doubts upon the point will have been dispelled. "Whatever may be the presentation of the first child," observes Denman, "and whatever method it might be found necessary to pursue for the delivery of the patient, these are to be precisely the same, and there will be no greater difficulty than if there was only a single child. One circumstance alone demands attention, that if the presentation of the first child be such as to require the child to be turned, when we have introduced our hand into the uterus, we must be careful not to break the membranes of the second child, if they be yet whole; or, if we should find them broken, we must take care to bring down the feet of the same child." By adhering to the simple rule already laid down, of grasping one foot only, all liability of committing the mistake we are here guarded against will be

* The existence of twins *in utero* was inferred on one occasion from the fact of a fœtal heart being audible, whilst, at the same time, there was a pulseless funis along with the head in the vagina.

prevented. We cannot conceive it possible for any one who has ever attended an ordinary case of labour, to overlook the fact of a second child being contained *in utero*, after the birth of the first, unless through the most culpable negligence, or where the remaining fœtus is of a very small size from having been blighted at an early period of gestation. An instance of this kind came under our observation not long ago. It was a patient in her sixth pregnancy, and both the children were girls. The first was strong and healthy, and had evidently come to its full time; but the second was much smaller, of a copper colour, and considerably advanced towards putrefaction, as the cuticle was everywhere peeling off. There was one large placenta, and that portion enclosed by the membranes of the dead child was slightly darker in colour and firmer in consistence than the rest; but these differences would have been readily overlooked upon a superficial examination. Case 41, also, of the present chapter was of the kind just described. A very singular, and, in many respects, interesting case, where a blighted twin was retained, with its placenta and membranes, for seven weeks after the birth of its fellow, alive, at the full term of pregnancy, has been recorded by Dr. Jame-son.* In this instance the fœtus had perished at about the sixth month of gestation, and presented a dark, shrivelled appearance, but was not at all putrid or decomposed. Between the last menstruation and the period of its expulsion, there had been an interval of forty-nine weeks.

We have never seen any exception to the physiological law, that in plural conceptions each fœtus has its own distinct involucre.

The rules of practice that have been followed in the management of twin cases, we shall now briefly detail. After the birth and separation of the first child, the binder is applied with a moderate degree of tightness. A vaginal examination is then made, and if the second fœtus be found presenting favourably

* London and Edinburgh Monthly Journal of Medical Science, December, 1842. It deserves to be mentioned that the lady who was the subject of this case had been attended by a midwife in her confinement of the first twin. In the Lancet, January 14, 1843, Mr. Vale recites a case where a woman, pregnant of twins, gave birth to the first alive, at the seventh month; and the second, also alive, two months afterwards.

(that is, with the head, or lower extremities), its membranes are forthwith ruptured. This is a slight deviation from the practice usually laid down by authors; but Dr. Johnson is of opinion that it is better to let off the liquor amnii at once than to wait any time before doing so; and we certainly think that this measure tends to produce a firmer and more permanent contraction of the uterus subsequently. Great faintness or exhaustion of the patient might render some delay advisable; but such a condition has very rarely occurred at this period. Should any part of the upper extremity of the second child present, the operation of turning ought to be undertaken immediately, before the pains have time to be renewed, or to have acquired much strength. If good uterine action did not come on within forty minutes or an hour after the rupture of the membranes, a stimulating injection was thrown up the rectum, and this, with a little friction over the uterus, seldom failed to increase the energy of the pains. On a few occasions, the above means were inadequate to excite sufficiently powerful uterine action, and in these instances the ergot of rye was administered, and with favourable results. In each of them the foetal head had descended more or less into the pelvic cavity before exhibiting the medicine. This circumstance is mentioned because some doubts may be entertained as to the propriety of giving ergot before the head has been fairly engaged in the superior aperture of the pelvis.

Where the uterus remains inactive for two hours after the first child has been expelled, authors advise us to terminate the labour by turning the second, as delay beyond this period involves danger to its life, exposes the woman to the continual risk of hæmorrhage, and will allow time for the contraction of the soft passages, so that the patient would have to undergo, in bringing forth this foetus, all the pain and suffering of another labour. The soundness of this practical precept is attested by many of the highest obstetrical authorities, and we fully admit its utility and great importance; but, at the same time, feel bound to state our conviction that, by steadily following the rules above mentioned, the operation will very rarely be necessary, unless on account of malposition of the child, or some untoward complication. In no instance was it called for in the Hospital, except where

the second child presented with the arm; but amongst the extern patients we saw one case in which it was required on account of inertia of the uterus. It seems to have formerly been a very generally established habit, among the best practitioners, to deliver the second child, by turning, immediately upon the birth of the first, and without any regard to the presentation. Thus, Chapman, in his *Midwifery*, directs: "The moment one child is brought away, and given to those in waiting, the *artist* (!) is to pass his *hand* (which may now be done without much pain), and break the membranes, if not yet broken, and so bring the other child away by the feet." The same rule is also inculcated by Sir Fielding Ould.*

The circumstances which would forbid delay in the delivery of the second fœtus are thus stated by Dr. Merriman:

1. Where it has been necessary to employ artificial aid in bringing the first child into the world. This obviously supposes the interference to have been demanded on account of the condition of the mother, and not from any vicious position of the child.

2. Where the second child presents in a preternatural position; or, to speak more definitely, presents with the upper extremity.

3. Where convulsions, or hæmorrhage, or any other serious accident, occurs in the interval between the two labours. Should flooding come on between the birth of the first and second infant, its treatment is to be conducted on the same principles as where it occurs in the second stage of any ordinary labour. The first object, therefore, will be to stimulate the uterus by friction, enemata, or ergot, and, if this fail, to expedite delivery by the use of such artificial aid as the nature of the case will admit of. The relative frequency of the operation of manual extraction of the placenta is somewhat greater after twin than single births; which circumstance may, perhaps, be attributable to this cause, that profuse hæmorrhage, necessitating the artificial removal of the after-birth, is more common in the former class of cases.

From the great extent of bleeding surface exposed by the detachment of a double placenta, hæmorrhage is an accident very

* *Treatise on Midwifery*. Dublin, 1742. This distinguished accoucheur immediately succeeded Dr. Mosse in the mastership of the Hospital, and filled that situation from the year 1760 to 1766. Obstetric science is indebted to him for making the first attempt towards the true explanation of the mechanism of the process of parturition.

much to be dreaded in labours complicated with plurality of children. Consequently, during the expulsion of the second fœtus, and afterwards, the most scrupulous attention should be paid to the employment of all the means calculated to secure a firm and permanent contraction of the uterus. The great necessity for this caution cannot be questioned.

In the twin cases that have fallen under our notice neither of the placentæ came away until after the birth of the second fœtus, except in one instance (No. 26): but the placenta of the first child may be expelled naturally, and without hæmorrhage, before the birth of the second. Dr. Collins mentions his having seen several instances of this rather unusual occurrence. But these facts, though interesting in themselves, would never justify any attempts of the practitioner to remove the after-birth of the first-born child, whilst the other fœtus was still *in utero*. When, unfortunately, the introduction of the hand is required to bring away one or both placentæ, the strictest care should be used to remove the mass entire, as no consideration of present comfort or convenience will outweigh the serious disadvantages resulting from an infraction of this rule. "Let it be kept in mind" (writes Dr. John Ramsbotham) "that there is always an increased hazard of flooding under the adhesion or retention of a part of a double placenta, from the larger space which the whole had occupied; it may, therefore, be desirable to have recourse to its manual removal at a more early period than under the presence of a single one."

One case of triplets is recorded in the present Report, but its history presents no particular feature of interest. In the treatment of such cases the well-instructed practitioner can be at no loss, for, to use the words of Denman, "he who understands the proper management of a twin case will meet with no difficulty to embarrass him, how many children soever there may be."*

* In the museum at the Hospital is a most singular preparation of an abortion, consisting of five children simultaneously conceived. There appear, on examination, three ova, one single, with its own rudimentary placenta; whilst the other two are twin, or each pair furnished with a common placenta, though separate sets of membranes. The woman considered herself about three months pregnant. This was her second pregnancy; in her first she went to her full time, and was delivered of one child. After a lapse of

It is very well known that the danger resulting from twin births is much greater than after ordinary labours: some even consider it to be in the ratio of four to one. Of the ninety-five cases in the present Report only two mothers died; a mortality that would seem to be rather below the average.

Experience has fully shewn that the presence of a second fœtus in the womb may, independently of any vicious conformation or unnatural union, produce obstacles to the birth of the first, of a more or less serious nature, or even wholly insurmountable by the unaided natural powers. This anomalous cause of difficulty generally arises from some part of each of the children tending to engage at the same time. Thus, Dr. F. H. Ramsbotham was once called to a case where a leg of each child was external to the vulva: "Although they were a right and left," he remarks, "I immediately detected, by the direction of the toes, that they belonged to different bodies; by gently pushing up one, and careful traction at the other leg, I extricated each breech from the brim of the pelvis, and both children were born living." A more common accident, however, is for the head of one child and a leg of the other to enter the pelvis simultaneously, of which an example occurred under our observation here; but the nature of the case having been detected in time, the leg was returned above the head, whereupon the latter came down, and the labour proceeded without any further interruption. Both children were born alive. (*Vide* No. 71.) Dr. Johnson was once brought to a case which probably began in the same manner as this; when he saw the patient, however, the body and limbs of one child were expelled beyond the external parts, but the head was im-

six months she conceived the five fetuses, and observed that subsequently she increased very rapidly in size, and suffered continually from bearing down, which rendered walking or standing almost impossible. She had constant sickness of stomach, a symptom generally looked upon as an evidence of compound pregnancy. The abortion would appear to have been produced by the inordinate distention of the uterus, as the ova presented no morbid appearance. The fetuses are all males. A circumstance not the least remarkable about this woman is, that she was the wife of a *tailor!* (Dublin Medical Journal, vol. xvi.) In the session of 1845-6 Dr. Beatty brought before the Surgical Society the particulars of a case where a woman had gone to the full time with four children, one of whom was acephalous, but the other three were born alive and strong. (Dublin Medical Press, December 10, 1845.)

moveably wedged in the pelvic cavity along with the head of the other infant, whose body was still *in utero*. Under these circumstances, he had no hesitation in lessening the head of the child whose body was external, as there was unequivocal evidence of its death, and very reasonable grounds for supposing the other twin to be alive,—at least all proof to the contrary was absent. After using the perforator the head was extracted with moderate force, and the birth of the second child took place shortly afterwards; but, unfortunately, it was still-born, and all efforts at resuscitation were utterly fruitless.

An interesting case, illustrative of our present subject, is recorded by Dr. Thomas Ferguson in the Dublin Medical Transactions (vol. i. p. 145). The first child, a boy, presented footling, and its descent “was in the most favourable position for delivery, the toes pointing to the sacrum, and must have been progressing in that regular course, until interrupted by the intrusion of the second head into the pelvis, so soon as the arms and shoulders of the first had fairly cleared its brim.” In the labour process the head of the male child became imbedded in the hollow of the neck of the female or second child; but, notwithstanding such obstacles, the unassisted powers of nature eventually succeeded in accomplishing the delivery of both children, one of whom, the female, was born living. The manner of their expulsion was as follows: the head of the female cleared the outlet first, simultaneously with the shoulders of the male, whose head was next expelled, and its delivery thereby completed, just two hours and a half after its body had passed through the os externum. It was the lady’s second confinement, and there was every reason for believing that she had arrived at the full term.* In the twelfth volume of the Medico-Chirurgical Transactions a case is narrated by Mr. J. Allan, which presented many features in common with the above, and, like it, the children were expelled by the simple contractions of the uterus; but he further states, that they were premature and still-born. Mr. Allan suggests a mode of practice, which, had the natural efforts been incompetent to effect delivery, he had resolved to perform in the

* A case in every particular resembling this of Dr. Ferguson’s will be found in the Medical and Physical Journal, vol. xxv., related by Dr. Clough.

case just mentioned. As he describes it, the operation consists "in detaching the body that had passed the os externum from the head, pushing the detached head further above the brim of the pelvis than it is already situated, and then extracting with the forceps the head occupying the hollow of the sacrum, provided the natural efforts still proved inadequate. After the extraction of this child the separated head would remain to be extracted with the forceps, or such other suitable instrument as might be necessary." A plan precisely similar to this was adopted by Mr. E. W. Eton; but the second child, which was delivered with the forceps, was still-born. It does not appear that any instrumental interference was necessary for the removal of the detached head.* Of two other recorded instances, where this locking of the heads of twin children took place, in one it was necessary to perforate both heads, as lessening the head of the child whose body was *in utero* was not found sufficient.† The second instance occurred to M. Eneaux, a surgeon at Dijon, and is contained in the *Journal de Medecine* for November, 1771. He states that he succeeded in withdrawing by the forceps the head next to the sacrum, while the body of the other child was held up, in the hands of an assistant, over the pubes of the mother. The children were very small, and the woman only at the beginning of the ninth month of utero-gestation. He adds, that the child which he extracted with the forceps survived, but that the other died, though of larger size.

From a review of the foregoing cases, the line of practice that we should feel most disposed to adopt, under similar circumstances, would be this: to push up the extremity that had descended with the head; this was done with complete success in Case No. 71 of present chapter. In the event of this failing, we should then endeavour to push up the head, and bring down the breech. If, as more commonly happens when called to the case, the first child be expelled to the shoulders, elevation of the other's head above the pelvic brim may still be tried, though the prospect of succeeding is small. Should this attempt fail, it then would remain for us "to give fair play to the

* Medical Gazette, July 24, 1846.

† Mr. Junior's case, Edinburgh Medical and Surgical Journal, vol. xviii.

natural powers, and only upon conviction of their inefficiency to lessen the bulk of one child. If the head of the footling case were within reach, it would be better to operate upon it, as the child's life will have already been compromised by the pressure upon the cord, whilst the other child has incurred little or no danger." — *Churchill*. This was the practice pursued by Dr. Johnson in the case already mentioned. Respecting the frequency of twin births, it may not be uninteresting to state, that since the opening of the Lying-in Hospital in the year 1757, to the end of the year 1846, there were delivered in the Institution 154,447 women, and of these 2382 gave birth to twins or more; thus giving an average of about 1 in 64. From Dr. Lee we learn, that since the founding of the British Lying-in Hospital "35,978 women have been delivered, and 36,401 children born. Four hundred and twenty-three had twins, and one three boys. The proportion of boys to girls born in this hospital is about 18 to 17; of still-births, about 1 in 25; and women having had twins, 1 to 85."

From time immemorial it has been an accredited fact, that if twins be of different sexes, the female will prove sterile. What gave rise to this belief, or with whom it originated, we cannot now stop to inquire; suffice it to say, that it has received popular assent, and has even been countenanced by medical men. Dr. Simpson is entitled to much praise for the pains he has taken to expose the fallacy of this long-established opinion, and we make no apology for here transcribing the results of his investigations upon the point.* He considers, then, that his researches, so far as they go, warrant him in concluding:

"1. That, in the human subject, females born co-twins with males are, when married, as likely to have children as any other females belonging to the general community.

"2. That, when they are married, and become mothers, they are, in respect to the number of their children, as productive as other females.

"3. That the same law of the fecundity of the female in

* Dr. Simpson's highly interesting paper, "On the alleged Infecundity of Females born co-twins with Males," will be found in the *Edinburgh Medical and Surgical Journal*, No. 158.

opposite-sexed twins seems to hold good among all our uniparous domestic animals, with the exception of the cow alone."

Ninety-five women were delivered of Twins in the Hospital during the three years of our Report. *Two* of the mothers died: *one* of hæmorrhage after delivery, and the other of uterine phlebitis. Of the 190 children 171 were born alive, viz., eighty-five first born, and eighty-six second born. Of the entire number of children 111 were boys, of whom fifty-eight were first born, and fifty-three second born: 79 were girls, of whom thirty-seven were first born, and forty-two second born: 101 boys were born alive, viz., fifty-two first born, and forty-nine second born: 70 girls were born alive, viz., thirty-three first born, and thirty-seven second born: 10 boys were dead born, viz., six first born, and four second born: 9 girls were dead born, viz., four first born, and five second born: five of these females were expelled in a putrid condition. The following scheme is intended to exhibit the numbers of the different presentations.

	Head Presentations.		Breech Presentations.		Footling Presentations.		Arm and Shoulder Presentations.	
	First Children.	Second Children.	First Children.	Second Children.	First Children.	Second Children.	First Children.	Second Children.
Boys,	39	35	12	10	6	7	. .	2
Girls,	25	23	8	9	3	7	1	3

In *thirty-eight* cases, two boys were born together.

In *twenty-two* cases, two girls were born together; and

In *thirty-five* cases, a boy and a girl were born together, of which, in twenty instances, the boy was the first born. In *four* cases the labour was premature, viz., No. 58 in the sixth month, and Nos. 9, 22, and 52 in the seventh month. The state of the after-birth was noted in sixty-eight instances, and in thirty-seven the two placentæ were united into one mass, whilst in thirty-one they were separate. In only fifty-eight cases was the interval between the births of the first and second child accurately registered: the following table shews the results. Thus, in three instances, the interval was five minutes; in nine, ten minutes; and so on.

	MINUTES.							HOURS.			
Number of Women, . .	3	9	10	11	2	13	1	4	3	1	1
Interval,	5	10	15	20	25	30	40	1	1½	2	2½

The number prefixed to each of the following statements shews the position of the case in the general table.

No. 1.—The first child in this case was expelled with the face towards the pubes.

No. 4.—The second child presented with the head and hand.

No. 6.—The second child presented with the arm, was turned, and extracted alive. (*Vide* No. 2 of the Arm Cases.)

No. 8.—The death of the first child was owing to prolapse of the funis along with the feet.

No. 11.—The second child presented with the arm, and was turned without delay.

No. 14.—M. S., first labour; delivered June 4, 1842. The labour in this case was tedious. After the birth of the first child uterine action became very weak, and ergot of rye was given; this failing to excite sufficient uterine action, the lever was applied, and a living boy extracted. He lived but nine hours. This woman had a slight attack of peritonitis, but ultimately recovered perfectly.

No. 17.—This woman had twins on a former occasion.

No. 26.—Hæmorrhage after delivery was the cause of death in this case. (*Vide* No. 11 of the Table of Hæmorrhages after Delivery.)

No. 28.—The second child presented with the arm, and was turned.

No. 32.—In this case also the arm of the second child presented. Version was promptly and easily effected.

No. 35.—M. F., first labour. The head of the first child remained for some hours on the perinæum, and ergot of rye was given, which acted most efficiently.

No. 36.—J. L., first labour; delivered March 31, 1842. As the pains were very inert after the birth of the first twin, and the head remained high up in the pelvis, one dose of ergot was given, which speedily excited good uterine action, and expelled the child.

No. 37.—Second child born with the face towards the pubes.

No. 39.—Second child expelled face to pubes.

No. 40.—Considerable hæmorrhage after the expulsion of the placenta. (No. 18 in Table of Hæmorrhages after Delivery.)

No. 41.—The first child was a boy, alive, and fully formed; but the second was a small, shrivelled fœtus, blighted at about the fifth month.

No. 43.—M. B., second labour; delivered June 5, 1843. The first child presented with the head. The right arm of the second child presented, whereupon the hand was passed up, and turning easily accomplished. She recovered well.

No. 46.—After the birth of the first child it was necessary to give ergot to excite the uterine contractions.

No. 52.—This woman was only about seven months pregnant. The first child presented with the arm, and was turned with the greatest facility. The second child presented with the head. Both children had evidently been dead for some days.

No. 61.—The second child entered the pelvis in the third position, and was expelled with its forehead next the pubes.

No. 62.—E. B., first pregnancy; delivered February 27, 1844. The foot and funis of the first child presented together, and when the child was born the pulsations of the cord had nearly ceased; animation, however, was excited by the diligent use of appropriate means. After rupturing the membranes of the second twin, the action of the uterus was very inert, and two doses of ergot had to be given before the pains were strong enough to expel the fœtus.

No. 65.—C. C., first labour; delivered March 16, 1844. Labour was protracted in consequence of great inertia of the uterus; the ergot was administered, and during the increased uterine action caused by this medicine a finger was passed into the groin (as the breech was presenting), and extraction thereby exerted. The birth of the child very soon followed, but, though it gasped two or three times, it could not be resuscitated. The second fœtus presented with the feet, and was born alive.

No. 66.—The first child was born with the face to the pubes, and was with difficulty reanimated. The funis of the second child descended with the head, but was quite pulseless.

No. 68.—M. F., first labour; delivered April 11, 1844. The first child (a male) presented with the breech, which remained for a long time in the pelvis without making any advance. The finger was then introduced into the groin, and delivery effected without any great difficulty. Upon rupturing the membranes of the second child, the head, hand, and foot were found presenting together: the foot was grasped and brought down.

No. 71.—This is the case before alluded to, in which, after the dilatation of the os uteri, the right leg of the second fœtus descended into the pelvis along with the head of the first, whose further advance was thus completely obstructed. When discovered the foot was protruding beyond the external parts, although the membranes of the other child (whose head partially occupied the pelvis) were yet unbroken. The leg descended at the right side of the pelvis. After some deliberation it was determined to push up the extremity, and so allow the head to descend through the pelvis. This course was adopted for two reasons: first, because it was easier of accomplishment than that of returning the head; and secondly, it was presumed that if the head was once fairly in the pelvis, the intrusion of any part of the other fœtus would be effectually prevented. During the absence of pain, therefore, the leg was steadily pressed up, until it was returned completely above the head. In doing this some force was required, and the limb was brought as much as possible to the *anterior* part of the pelvis. Shortly after the reduction of the limb the first child was born. The second fœtus presented with the foot that had before been visible, and its delivery was concluded within a short space of time. Both the children were born alive. The leg which had come down with the head presented a dark colour immediately below the knee, pointing out the spot where most compression had been made upon it. This woman's convalescence was uninterruptedly good.

No. 77.—The second child was expelled with the face towards the pubes.

No. 81.—Some hæmorrhage after the expulsion of the placenta. (Table of Hæmorrhages after Delivery, No. 37.)

No. 83.—Second child presented head and hand.

No. 84.—Severe hæmorrhage after the birth of the second

child, requiring the hand to be introduced for the placenta. (See No. 23 in the Cases of Retained Placenta.)

No. 86.—After the rupture of the membranes of the second child its funis prolapsed. It was returned with the fingers above the head, and as the pains were weak a dose of ergot was then given; this increased the pains, and thereby expedited the labour. Both children were born alive, and there was an hour's interval between the two births. (No. 30 in the Table of Funis Cases.)

No. 88.—In this case the labour was tedious and prolonged from want of sufficient expelling power. As the membranes remained unbroken for some hours after the full dilatation of the mouth of the womb, they were artificially ruptured, in the hope of increasing the pains. This measure not having the desired effect, ergot of rye was administered, and the vectis subsequently used. The second child presented with the breech, and was born an hour after the other. Both children were dead. This patient recovered well.

No. 91.—E. D., first labour; delivered November 5, 1844. It was a curious circumstance in the history of this case, that with each twin the funis presented, in the first birth along with the feet, and in the second with the head. In the former instance the funic pulsations ceased during the labour, as all attempts to keep up the funis utterly failed; but in the case of the second child the cord was returned above the head, and it remained up until the child was expelled, whereby its life was saved.

We have mentioned that there was only one case of Triplets during the period embraced by this Report; its history may now be given.

E. C., aged 27, third pregnancy; delivered May 21, 1844. In her first labour she had a boy, and in her second the child was a girl. On the present occasion she was confined of two girls and a boy, the last being second in the order of birth. There were three separate bags of membranes, but the placentaë were united at the edges, so as to form one uniform mass. Each fœtus presented with the vertex, and they were expelled in quick succession after one another. Her recovery was most favourable, and she left the Hospital with the three children alive. This woman has had no child since, but continues in excellent health up to

the present time. The children, however, died within a few months after leaving the Hospital.

TABLE I.

This exhibits the duration of labour in the ninety-five cases: thus, one woman was a quarter of an hour ill; five women half an hour; and so on.

Number of Women, . . .	1	5	5	12	13	11	7	7	6	3	5
Hours in Labour, . . .	$\frac{1}{4}$	$\frac{1}{2}$	1	2	3	4	5	6	7	8	9
Number of Women, . . .	1	1	2	2	1	3	3	3	2	1	1
Hours in Labour, . . .	10	11	12	13	15	20	24	26	34	36	40

TABLE II.

This shews the number of pregnancies that each woman had: thus, with thirty-two it was the first pregnancy; with twenty-four the second; and so on.

No. of Women, . . .	32	24	9	6	8	4	3	3	2	2	1	1
No. of Pregnancy, .	1	2	3	4	5	6	7	8	9	10	11	12

TABLE III.

This is the "General Table" before alluded to. Under the respective headings, "Sex of Children," "Alive or dead," and "Presentation," the ordinals *first* and *second* have reference to the first and second twin: so that in every instance the sex, vitality, and presentation of each individual twin can be learned by inspection of the table. In the column headed "Presentations," the letter H. stands for head; the letter F. for foot; the letter B. for breech; and the letter A. for arm. In those cases where the length of the interval between the births was not recorded, a blank occurs in the appropriate column.

Number of Case.	Age of Patient.	Hours ill.	No. of Pregnancy.	Sex of Children.		Alive or dead.		Presentations.		Interval.	Result to Mother.	Observations.
				First.	Second.	First.	Second.	First.	Second.			
1	25	6	4	B.	B.	1	1	H.	H.	H. M. 0 10	R.	V.
2	23	1	2	G.	B.	1	1	F.	H.	1 0	R.	
3	24	$\frac{1}{4}$	2	G.	G.	1	1	F.	H.	0 10	R.	
4	23	$\frac{1}{2}$	2	G.	B.	1	1	H.	H.	0 15	R.	V.
5	30	5	1	B.	G.	1	1	H.	B.	0 15	R.	
6	21	26	1	B.	B.	1	1	B.	A.	0 10	D.	V.
7	23	6	1	B.	B.	1	1	H.	B.	0 30	R.	
8	27	9	2	B.	G.	D.	1	F.	H.	0 5	R.	V.
9	27	2	6	B.	B.	1	1	H.	H.	0 30	R.	
10	24	5	2	B.	B.	1	1	H.	F.	0 30	R.	
11	40	3	8	G.	G.	1	1	H.	A.	0 20	R.	V.
12	35	1	9	B.	B.	1	1	H.	H.	0 10	R.	
13	33	5	7	G.	G.	1	1	H.	F.	0 5	R.	
14	30	24	1	G.	B.	1	1	H.	H.	2 30	R.	V.
15	30	4	7	B.	B.	1	1	H.	H.	0 10	R.	
16	30	2	1	B.	B.	D.	1	H.	H.	0 15	R.	
17	33	2	5	B.	G.	1	1	B.	H.	0 30	R.	V.
18	22	4	1	G.	G.	1	1	H.	H.	. .	R.	
19	33	12	5	B.	B.	1	1	B.	H.	1 0	R.	
20	38	3	9	G.	B.	1	1	H.	H.	0 30	R.	
21	28	7	2	G.	B.	1	1	F.	B.	0 5	R.	
22	23	6	1	G.	G.	1	1	H.	B.	0 20	R.	
23	25	20	2	B.	B.	D.	1	H.	H.	0 15	R.	
24	33	4	11	B.	B.	1	1	F.	B.	0 30	R.	
25	35	3	3	G.	G.	1	1	H.	H.	0 20	R.	
26	30	$\frac{1}{2}$	4	G.	G.	1	1	H.	H.	0 10	D.	V.
27	28	9	2	G.	B.	1	1	H.	H.	0 20	R.	
28	27	3	2	B.	G.	1	1	B.	A.	0 10	R.	V.
29	28	2	2	B.	B.	1	1	H.	B.	. .	R.	
30	21	3	1	B.	B.	1	1	H.	H.	. .	R.	
31	31	34	1	B.	B.	D.	D.	H.	H.	0 15	R.	
32	36	1	4	G.	B.	1	1	B.	A.	0 10	R.	V.
33	28	2	6	B.	G.	1	1	H.	H.	0 30	R.	
34	26	3	3	G.	G.	1	1	B.	H.	0 20	R.	
35	25	24	1	G.	G.	1	1	H.	H.	0 25	R.	V.
36	29	12	1	G.	G.	D.	1	H.	H.	1 30	R.	V.
37	23	13	3	G.	G.	1	1	B.	H.	0 30	R.	V.
38	32	2	5	B.	B.	1	1	H.	H.	. .	R.	
39	26	6	2	G.	G.	1	1	B.	H.	. .	R.	V.
40	30	3	6	B.	G.	1	1	H.	H.	1 30	R.	V.
41	33	$\frac{1}{2}$	7	B.	B.	1	D. p.	H.	H.	. .	R.	V.
42	20	4	1	B.	B.	1	1	H.	B.	0 30	R.	

Number of Case.	Age of Patient.	Hours ill.	No. of Pregnancy.	Sex of Children.		Alive or dead.		Presentations.		Interval.	Result to Mother.	Observations.
				First.	Second.	First.	Second.	First.	Second.			
43	26	7	2	B.	G.	1	1	H.	A.	H. M. 0 30	R.	V.
44	23	3	2	B.	B.	1	1	H.	F.	..	R.	
45	36	7	12	B.	B.	1	1	H.	B.	..	R.	
46	28	5	5	B.	B.	1	1	H.	H.	1 30	R.	V.
47	27	7	5	B.	B.	1	1	B.	H.	0 15	R.	
48	26	2	2	B.	G.	1	1	H.	H.	0 15	R.	
49	28	$\frac{1}{2}$	1	G.	G.	1	1	H.	H.	..	R.	
50	30	2	8	B.	B.	1	1	H.	B.	..	R.	
51	31	8	1	G.	G.	1	1	H.	B.	..	R.	
52	27	20	1	G.	G.	D. p.	D. p.	A.	H.	..	R.	V.
53	22	4	2	G.	B.	1	1	H.	B.	..	R.	
54	37	4	10	B.	G.	1	1	H.	F.	..	R.	
55	23	6	2	B.	B.	1	1	H.	B.	..	R.	
56	25	9	1	B.	G.	1	1	B.	H.	..	R.	
57	27	11	5	B.	B.	1	1	H.	H.	..	R.	
58	31	4	4	B.	B.	1	D.	H.	H.	..	R.	
59	35	1	8	G.	B.	1	1	H.	H.	0 15	R.	
60	38	5	5	B.	G.	1	D. p.	B.	F.	0 20	R.	
61	30	3	5	G.	B.	1	1	B.	H.	..	R.	V.
62	25	6	1	B.	G.	1	1	F.	H.	0 40	R.	V.
63	36	2	4	B.	B.	1	1	H.	B.	..	R.	
64	28	4	2	B.	G.	1	1	H.	H.	..	R.	
65	30	26	1	B.	B.	D.	1	B.	F.	0 20	R.	V.
66	26	34	1	G.	G.	1	D.	H.	H.	0 25	R.	V.
67	30	2	2	B.	B.	1	1	H.	F.	0 20	R.	
68	35	40	1	B.	G.	1	1	B.	F.	0 15	R.	V.
69	31	4	1	G.	G.	D. p.	D. p.	B.	H.	..	R.	
70	26	9	2	B.	B.	1	1	H.	F.	..	R.	
71	22	26	1	G.	B.	1	1	H.	F.	0 15	R.	V.
72	24	9	2	B.	B.	1	1	H.	F.	0 10	R.	
73	20	4	1	B.	B.	1	1	H.	H.	..	R.	
74	25	3	2	B.	G.	1	1	B.	B.	..	R.	
75	27	3	2	B.	B.	1	1	H.	F.	..	R.	
76	30	8	3	G.	B.	1	1	H.	H.	2 0	R.	
77	30	7	1	B.	B.	1	D.	F.	H.	0 20	R.	V.
78	28	3	4	B.	G.	1	1	H.	H.	..	R.	
79	31	4	3	G.	B.	1	1	H.	H.	..	R.	
80	28	6	3	B.	B.	1	1	H.	H.	0 30	R.	
81	21	5	1	G.	B.	1	1	B.	H.	..	R.	V.
82	34	13	3	B.	B.	1	1	H.	H.	0 20	R.	
83	17	24	1	G.	G.	1	1	H.	H.	..	R.	V.
84	36	$\frac{1}{2}$	10	B.	G.	1	1	H.	B.	..	R.	V.

Number of Case.	Age of Patient.	Hours ill.	No. of Pregnancy.	Sex of Children.		Alive or dead.		Presentations.		Intervals.	Result to Mother.	Observations.
				First.	Second.	First.	Second.	First.	Second.			
85	42	2	6	B.	G.	1	1	H.	F.	H. M. ..	R.	
86	23	15	1	G.	B.	1	1	H.	H.	1 0	R.	V.
87	34	5	2	B.	G.	1	1	H.	B.	0 20	R.	
88	27	36	1	G.	G.	D.	D.	H.	B.	1 0	R.	V.
89	25	8	1	G.	G.	1	1	B.	F.	0 30	R.	
90	28	10	1	B.	B.	1	1	B.	H.	0 30	R.	V.
91	35	20	1	B.	B.	D.	1	F.	H.	..	R.	
92	22	1	3	B.	B.	1	1	F.	H.	..	R.	
93	27	2	1	G.	G.	1	1	H.	B.	..	R.	
94	30	7	2	B.	B.	1	1	B.	H.	..	R.	
95	27	3	3	G.	G.	1	1	H.	B.	..	R.	

FUNIS PRESENTATIONS.

THE umbilical cord may descend along with any presentation of the child, but it is, we believe, most likely to happen where this is preternatural, particularly if it be a footling. The period of the labour at which the prolapse takes place is a circumstance that exercises considerable influence upon the prognosis and treatment of this complication. It may be stated as a general rule, to which there are but few exceptions, that the danger of the child is greatest where the cord comes down early in the first stage (the membranes being broken), in consequence of the difficulty of effecting its reposition at this time. For practical purposes it will suffice to distinguish four periods, at any of which the descent may occur. These we shall enumerate, and then proceed to speak of the treatment. 1. The funis may be felt through the partially open os uteri, within the membranes. 2. It may escape through the os into the vaginal canal. Puzos and many later writers consider that this is occasionally produced by the sudden and forcible discharge of the liquor amnii. But though we admit the possibility of such an occurrence, yet we cannot agree with the respected author just named, that the placenta could also be displaced by the same cause. 3. The cord may, in the second stage of labour, descend past the presenting part, when this is at the superior strait of the pelvis. And lastly, the same may happen where the head is fairly engaged in the pelvis, or even on the perinæum. Now, as regards the life of the fœtus, it is a matter of no small moment at which of these periods the funis becomes prolapsed. If the child be dead we are, of course, freed from all necessity for interference on account of the complication, and the only influence it can have on the practice in that case is such as would naturally result from the possession of demonstrative evidence of the child's death.

When the funis is felt within the os uteri before the evacua-

tion of the liquor amnii, there is no need of interference, as destructive pressure can scarcely be made upon it whilst the membranes continue unbroken; every precaution, therefore, should be used to preserve their integrity as long as possible. If the membranes have already ruptured, the os being incompletely opened, the liability to fatal compression of the cord is very great; and if the pains succeed each other rapidly, its pulsations will speedily cease. Judging from what has fallen under our own observation, we should say that interruption of the circulation between the placenta and foetus, under circumstances where the atmospheric air is denied access to the lungs, proves fatal with nearly the same speed as obstruction to the process of respiration in an adult.

We have on many occasions compared the sounds of the foetal heart *in utero*, as heard by the stethoscope, with the pulsations of the prolapsed funis, in order to discover if there was any want of synchronism between them, and we have invariably found that each double cardiac sound coincided with a single beat of the umbilical arteries, from which it may be legitimately inferred that the relation between the ventricular contraction and cardiac sounds is the same during intra-uterine life as after birth.

Various means and contrivances for rectifying this displacement of the cord have been from time to time employed, and will be found described in the different systematic treatises upon midwifery, so that it is unnecessary to enter upon an enumeration of them here. We have generally trusted, however, to careful manipulation with the hand alone for effecting the desired object, considering such to be safer than any other method, and as likely, if not more so, to be successful. Turning the child in these cases has been strongly recommended by Mauriceau, and he relates very many instances where he performed version on account of this complication. But in the Hospital the operation of turning was not had recourse to on such grounds, as Dr. Johnson considers that the probability of saving the child by this measure is not sufficiently great to justify its adoption, or to counterbalance the risk to which it exposes the mother.

The opinions of Dr. Collins and Dr. Robert Lee upon this subject are almost in complete accordance with that just expressed.

It is true that Mauriceau's "Observations" exhibit most extraordinary success in the management of the cases at present under consideration, and that in a very large proportion of them he delivered by turning; yet these fortunate results so far surpass those of any other accoucheur, and, as facts, stand so wholly unsupported by the experience of more modern practitioners, as materially to detract from their value, and to exclude them from that share of weight and influence which they should otherwise have had in the decision of the question. Upon this subject we may be permitted to quote the language of Baudelocque, whose education and religious prejudices were certainly calculated to dispose him favourably to the operation, if a successful one for the child,—at all events, to make him attach no undue importance to the claims of the mother when deliberating upon the matter. Hence any observations of his tending to disparage this expedient are deserving of much attention, as they must have arisen purely from conviction of its incompetency, and not, as we said before, from any exaggerated regard or over-anxiety about the interests of the parent. He writes: "This accident is, without doubt, dangerous, but the precept of delivering instantly by turning the child would not be less so, if we were to give it indiscriminately for all cases where the cord falls down thus; for many a child has perished while it was extracted by the feet, which might have been born living, notwithstanding the exit of the cord, if the delivery had been left to nature. We ought, then, to attempt nothing till we have well examined the course nature is likely to take, and the effects the umbilical cord suffers; for often, after the discharge of the waters which brought it out, the expulsion of the child is quicker than its extraction could be: by following the too general precept, we should in all those cases add a long compression of the cord to the danger sometimes inseparable from turning the child and bringing it by the feet."*

On two or three occasions we tried a plan of reducing the funis very similar to that recommended by Dr. Michaelis, of Kiel.†

* Midwifery, Heath's translation, vol. ii. p. 114.

† British and Foreign Medical Review, vol. i. p. 588.

A soft ligature, composed of tape or a few threads of worsted, was passed through the loop of prolapsed funis, and then both ends of it were drawn through a flexible male catheter of the full length. A strong stilette was next introduced into the catheter, caution being used to prevent its projecting at the eye of the instrument. After this was done, the ligature was gently pulled, so as to cause the funis to be brought in contact with the extremity of the catheter, which we then endeavoured to push up beside the presenting part of the child. After this has been effected the stilette is to be withdrawn and the catheter allowed to remain until the termination of the labour, or until the head is low enough down in the pelvis to prevent a recurrence of the prolapse. This method of replacing the cord seemed so simple, and at the same time so likely to fulfil the object in view, that we were induced to try it; but, unfortunately, when we came to put it to the test of experiment, these expectations were not realized. Hence the little experience we have had of this practice inclines us to speak rather doubtingly of its merits.

In one case, where the os was about half dilated, we found that each attempt to elevate the funis and catheter so irritated the uterus as to bring on pains, and these proved a great hindrance to the achievement of our object, for whilst they continued it was impossible to proceed. In a conversation that we very recently had with Professor Michaelis, he authorized us to state that he no longer recommends or practises the above mode of replacing the cord, being convinced, from repeated experience, that it is much better to trust to the hand and fingers alone for effecting the desired object.

A modification of the plan just mentioned is described by M. Chailly as having been frequently employed successfully by M. Champion. Round the most dependent part of the coil is tied a loop of riband; a flexible male catheter and stout stilette are next provided, and, the end of the loop having been introduced into the eye of the catheter, the stilette is run through it, by which means the loop is securely attached to the extremity of the instrument. Having accomplished the reduction, the stilette is to be withdrawn a short way, when, of course, the cord and loop of

riband will be immediately set free, and thereupon the catheter may be removed.

In the third group of cases,—those, namely, in which the membranes were broken, the os uteri fully dilated, and the head at the brim of the pelvis,—we have usually found that the difficulties opposed to the reduction of the prolapse were proportionably greater when the descent took place posteriorly: this is only what might *à priori* be expected, from the increased depth of the pelvis at the sacrum. In the majority of cases that came under our observation the loop of the funis had descended more towards the posterior than the anterior part of the pelvic cavity. The position of the child *in utero* explains the reason of this circumstance; for the abdomen, and, consequently, the umbilicus of the fœtus is oftener directed towards the spine than towards the abdomen of the mother.

The plan that we have been in the habit of following for the reduction of a prolapsed funis may now be described. The patient is placed as much as possible across the bed, upon the side *opposite* to that on which the procidentia exists; thus, if it be towards the right sacro-iliac junction (as happened in nearly all the cases we have seen of this complication), she reclines on her left side in the usual obstetric position; but if the descent has taken place at the left sacro-iliac symphysis, she is made to lie on her right side. This is the first point to be attended to; next is the hand. In preferring one hand to the other, our object is to use that whose dorsal surface can most conveniently be kept near the sacrum, for much greater facility will be thereby obtained in accommodating the fingers to the concavity and direction of the pelvis: if, therefore, the woman be lying on her left side, the left hand is used; and if on the opposite side, the right hand.

These preliminaries having been arranged, the index and middle fingers are introduced into the vagina, during an interval between the pains, and the funis is drawn gently forwards, in order, if possible, to bring it to a shallow part of the pelvis. We then endeavour to pass it up, beginning with the most dependent portion, and afterwards elevating the remainder by little and little, until the whole has been pushed up out of reach of the fingers

In this way the reduction has sometimes been accomplished, although the os uteri was not dilated to more than half its full extent. We have found in different cases, where the pulsation was vigorous in the cord, that, although we could not elevate it fully above the head, yet that, by keeping the fingers steadily in their position for a few minutes the entire coil has been drawn up. The impetus of the blood in the umbilical arteries, together with the lubricity of the parts concerned, may, perhaps, account for this occurrence.

The circumstance of a large coil having made its exit should not deter one from an attempt at reduction, for we have sometimes succeeded, much contrary to our own expectations, in cases where the funis had even prolapsed considerably beyond the vulva. A great obstacle to the success of this operation is the frequent recurrence of the pains, for during their presence we must remit or altogether discontinue our efforts.

The same plan for effecting the reposition of the cord has been sometimes pursued in those cases which constitute our fourth class,—that is to say, where the head was low down in the pelvic cavity, or resting on the perinæum, at the time the prolapse takes place. The accident rarely occurs, however, at this period, but when it does, the resources of art are not merely confined to attempts at rectifying the displacement, for should these prove ineffectual, we may frequently call to our aid the use of the forceps or vectis, and by their judicious employment rescue the child from its perilous situation. If reduction be found impracticable, and the funic pulsations do not indicate any urgent necessity for haste, it may be deemed advisable before resorting to instrumental interference, to try the effect of stimulating the uterus by an active enema, or by the administration of the ergot of rye. After returning the cord we have usually examined for the foetal heart with the stethoscope, for by this means a pretty accurate opinion may in general be formed as to the success of the operation, and the probability of its main object being attained. This can be best illustrated by a case (No. 25 in table). It so happened in this instance that when called to the patient the pulsations of the funis were no longer perceptible; nevertheless, as the feel and appearance of the cord



confirmed the attendant pupil's statement, "that the beats had only just ceased," reduction was attempted without loss of time, and, fortunately, was soon accomplished. A careful stethoscopic examination was immediately instituted, and, after some little time (about three or four minutes), the cardiac sounds of the fœtus were detected. At first they were slow, and very faint, but we had the gratification of observing that they gradually increased in strength and frequency, until they had completely re-acquired their normal character. A stimulating enema was then given, to expedite the termination of the labour. As may be anticipated, this child was born alive and healthy, in the course of an hour after the return of the funis.

If, instead of the head, it be the breech or feet that present, the consequences will be much the same to the fœtus, perhaps, indeed, worse, as there is more difficulty in retaining the funis up, should we succeed in replacing it. This observation is particularly true of footling cases. If, under the idea of hastening the delivery, we forcibly extract by the feet or buttocks before the soft parts are completely dilated, or in the case of a first child, we shall most probably defeat our own object, as such delay will occur in bringing down the arms and disengaging the head as shall inevitably extinguish any remaining vitality in the child, should the cord be subjected to pressure all the time. There are, no doubt, some cases where it is advantageous to use traction, and where delivery may be expedited by so doing; thus, for example, if it be a third or fourth labour, if the soft parts be well lubricated and fully dilated, and if the child be placed in a favourable position, then, under this combination of circumstances, it would be desirable to exercise manual extraction, should the state of the cord give evidence of its being subjected to a dangerous degree of compression. At the same time a dose of ergot might be exhibited, for if the pains fail us before the head has got fairly into the pelvis, much trouble will be occasioned and many valuable moments lost. Before beginning to extract, it is always advisable to place the cord in that situation where it will be least exposed to pressure.

Thirty-seven instances of prolapse of the cord were noted in

the Hospital during the time of our Report. In one case of twins the funis descended below the presenting part of each foetus. *Twelve* children were born alive, viz., eight boys and four girls; *nine* of them presented with the head, *two* with the feet, and *one* with the arm. In *five* of these cases the funis was returned above the head; in *one* case delivery was effected with the vectis; and in the remaining *six* the management was not materially affected by the complication. Of the *twenty-five* children born dead, *four* were in a putrid condition; and in *seven* instances the cord was pulseless on admission, or before its prolapse was discovered. The number prefixed to each of the following statements is for the purpose of reference from the general table which concludes this chapter.

No. 1.—On admission the arm and funis were found presenting; and as the latter was completely pulseless, and the shoulder wedged in the pelvis, delivery was accomplished by the use of the perforator and crotchet.

No. 2.—This was a twin case. The funis of the first child descended along with the feet.

No. 3.—The funis came down in the second stage of labour, and as the head was low in the pelvis, the pubic blade of the forceps was introduced, and by its means the child was extracted alive. The pulsation in the cord had nearly ceased before the instrument was applied.

No. 4.—In this case the membranes ruptured at an early period of the labour, and the cord escaped before the dilatation of the os had proceeded to any considerable extent. Reposition was found utterly impracticable. In this woman's previous labour the same accident occurred, and with the same result.

No. 5.—The head, hand, and funis, all presented together. Replacement of the cord above the head could not be effected, consequently, its pulsations soon ceased. Delivery had eventually to be accomplished by means of the perforator and crotchet.

No. 8.—Whilst the head was at the brim of the pelvis the cord descended, and as it could not be returned, two doses of ergot were given, in the hope of bringing the head down within reach of the forceps; this, however, did not take place till too late to derive any benefit from using the instrument.

No. 10.—As the arm and funis presented, the child was delivered by turning. It was the woman's fourth labour, and the child's life was preserved.

No. 11.—The funis prolapsed upon the rupture of the membranes, and in fifteen minutes afterwards the child was expelled.

No. 12.—The particulars of this case are precisely the same as No. 8.

No. 13.—The funis, a hand, and a foot, presented at the os, and the foot was drawn down. The child was putrid. See No. 10 in table of Arm Cases.

No. 14.—The arm and funis presented, and the latter was pulseless when the accident was discovered. "Spontaneous expulsion" of the child took place. The woman was little more than seven months advanced in pregnancy. See No. 12. in table of Arm Cases.

No. 15.—A seven months' child. The foot and funis presented.

No. 17.—The head and funis presented. As the latter was not subjected to any dangerous degree of compression, no interference was used, and the child was born alive.

No. 18.—The membranes ruptured and the funis prolapsed at a very early period of the labour. All attempts at reduction proved ineffectual, owing to the small size and high position of the os uteri.

No. 19.—Craniotomy was performed, as the head had remained stationary for several hours, and the funis had been pulseless for the same space.

Nos. 20 and 21.—In each of these instances the cord was prolapsed and devoid of pulsation on admission.

No. 23.—A twin case. The funis of the first child came down along with the feet. Its life was saved, as there was little delay in the extraction.

No. 24.—Also a twin case. The funis of second child descended before the head.

No. 25.—The history of this case has been already related in the observations on the treatment of prolapse of the funis (p. 343.)

No. 26.—Breech and funis presented; child putrid. This case was recorded amongst those of Hæmorrhage before Delivery, No. 23, page 212.

No. 27.—The funis in this case was returned above the head after the os was fully dilated. A stimulating enema and a dose of ergot were then administered, in order to propel the head lower down into the pelvis, and so to prevent a recurrence of the prolapse. The child was born alive.

No. 28.—When the os had dilated to about the diameter of a crown, the membranes ruptured and the funis came down. It was returned by the finger and remained up.

No. 29.—The funis, in this instance, was pushed up above the head, before its pulsations had ceased; nevertheless, the child was lifeless when born.

No. 30.—A twin case. The funis of second child descended below the head, but was returned with the finger. A dose of ergot was then given to hasten delivery, as the pains were inefficient.

No. 31.—Soon after the os had begun to dilate, the membranes ruptured, and the funis came down. All efforts at reduction were quite futile.

No. 32.—The cord was prolapsed and pulseless on admission.

Nos. 33 and 34.—These two numbers refer to the same patient. She had twins, and the funis descended with each child. The first presented with the feet, and the pulsations of the cord became extinct in the course of the labour. The funis of the second child (No. 34) descended below the head, but was returned, and with a successful issue.

No. 35.—The arm presented along with the funis and the child was turned, but its life was not preserved. Before the operation the circulation through the funis was nearly arrested. (See No. 25 in table of Arm Cases.)

No. 36.—Funis had ceased to pulsate at the time of her admission into the Hospital. (See No. 10 in the table of Hæmorrhages after Delivery, for further particulars relating to this woman's case.)

No. 37.—A putrid premature child of about the seventh month.

TABLE I.

This shews how many of the thirty-six cases were first pregnancies, how many second, and so on; thus, eleven were first labours; eleven second, &c.

No. of Women,	11	11	5	5	3	1
No. of Pregnancies, .	1	2	3	4	6	12

TABLE II.

This shews the duration of labour; thus, one woman was one hour ill; four, two hours; and so on.

No. of Women,	1	4	1	4	4	3	2	3	1	1
Hours ill, . . .	1	2	3	4	5	6	7	8	9	12
No. of Women,	1	1	2	1	1	1	2	1	1	1
Hours ill, . . .	14	15	16	17	20	23	24	31	34	35

TABLE III.

This contains a summary of the thirty-seven cases. Under the head of "Presentation," the letter A. stands for arm; the letter F. for feet; the letter H. for head; and the letter B. for breech. In the adjoining column, headed "Mode of Delivery," the letter P stands for perforation; the letter V. for vectis; the letter T. for turning, and the letter R. implies that the cord was returned above the head. Where a blank occurs in this column it is intended to signify that in the management of the case there was nothing peculiar, or materially different from what would have been adopted under other circumstances.

Number of Case.	Age of Patient.	Hours ill.	No. of Pregnancy.	Sex of Child.	Alive or dead.	Presentation.	Mode of Delivery.	Result to Mother.	Observations.
1	30	6	2	B.	D.	A.	P.	R.	V.
2	27	9	2	B.	D.	F.	. .	R.	V.
3	30	8	4	G.	l	H.	V.	R.	V.
4	38	2	2	B.	D.	H.	. .	R.	V.
5	30	24	1	B.	D.	H.	P.	R.	V.
6	29	2	3	B.	D.	H.	. .	R.	
7	25	24	2	G.	l	H.	. .	R.	
8	29	6	6	B.	D.	H.	. .	R.	V.
9	29	2	6	G.	l	F.	. .	R.	
10	35	4	4	B.	l	A.	T.	R.	V.
11	26	5	2	B.	l	H.	. .	R.	V.
12	38	31	3	B.	D.	H.	. .	R.	V.
13	22	8	1	B.	D. p.	A.	T.	R.	V.
14	28	5	4	G.	D.	A.	. .	R.	V.
15	30	2	2	G.	D.	F.	. .	R.	V.
16	30	7	2	G.	D.	H.	. .	R.	
17	35	5	4	B.	l	H.	. .	R.	V.
18	25	16	3	G.	D.	H.	. .	R.	V.
19	27	35	1	B.	D.	H.	P.	R.	V.
20	26	3	2	G.	D.	H.	. .	R.	V.
21	30	1	2	G.	D.	H.	. .	R.	V.
22	27	7	3	B.	D. p.	H.	. .	R.	
23	25	6	1	B.	l	F.	. .	R.	V.
24	26	34	1	G.	D.	H.	. .	R.	V.
25	30	4	3	B.	l	H.	R.	R.	V.
26	34	16	12	B.	D. p.	B.	. .	D.	V.
27	28	4	2	B.	l	H.	R.	R.	V.
28	34	4	6	G.	l	H.	R.	R.	V.
29	27	17	2	B.	D.	H.	R.	R.	V.
30	23	15	1	B.	l	H.	R.	R.	V.
31	28	12	1	B.	D.	H.	. .	R.	V.
32	26	23	1	B.	D.	H.	P.	R.	V.
33	35	20	1	B.	D.	F.	. .	R.	V.
34	35	20	1	B.	l	H.	R.	R.	V.
35	21	8	1	B.	D.	A.	T.	R.	V.
36	28	5	1	B.	D.	H.	. .	R.	V.
37	30	14	4	B.	D. p.	H.	. .	R.	V.

OPHTHALMIA NEONATORUM.

HAVING seen amongst the children in the Hospital a large number of cases of purulent ophthalmia, we have thought that a short account of the disease, as observed by us, would not be altogether uninteresting, more particularly as the mode of treatment followed was always found most successful.

All the children that we have seen attacked were under a fortnight old, and in the great majority the disease shewed itself within the first week after delivery. In some instances it occurred so early, however, as within twenty-four or thirty-six hours from the time of birth.* It was not exclusively confined to the infants of women suffering under leucorrhœal discharges, or gonorrhœa, although where such existed the child was more liable to the disease. During unhealthy states of the atmosphere, and at times when there prevailed a disposition to puerperal fever, cases of purulent ophthalmia were observed to be more frequent, and to be very slow in recovering. The symptoms that usually first drew attention to the state of the organ was the appearance of slight redness and swelling, with closure of the lids. On separating them, a copious discharge of clear, amber-coloured fluid escaped, and the conjunctiva presented a deep red colour throughout its entire extent, but more markedly on the inner surface of the palpebræ; great intolerance of light also was manifested. At a later period the lids became still more swollen, and the integument covering the orbicular muscle acquired a deep red inflammatory blush; the mucous membrane, too, from vascular turgescence

* A very remarkable case is related by Mr. Walker (of Manchester), of an infant in whom this disease had run through its entire course before birth. "The cornea of one eye had completely sloughed, the eye-ball had sunk, and, of course, not the slightest vision existed. More than one-half of the cornea of the other eye was opaque; through the remaining transparent portion, a part of the pupil can be discerned, and the iris and cornea appeared almost in contact."—*Lancet*, Feb. 8, 1840. (Braithwaite, vol. i.)

and infiltration, was very much thickened and puffy, insomuch as to render it very difficult to get a satisfactory view of the entire cornea, without using violence and subjecting the child to considerable pain. This state of things generally lasted for twenty-four or forty-eight hours, and was regarded at the *first stage* of the disease.

The change from this to the *second stage* was indicated by an alteration in the appearance of the secretion from the inflamed mucous membrane; from having been transparent it became at first opaque, and eventually thick, yellow, and, in fact, purulent, wherein consists the leading characteristic not only of this stage but also of the disease itself. Cotemporary with this alteration there was generally some diminution in the acuteness of the other symptoms. Thus, the tension and swelling of the lids decreased; the inflammatory redness faded slightly; and the extreme sensibility of the affected parts became less, so that the necessary sponging and cleansing of the eye was not productive of the same distress and inquietude as before. The matter was continually flowing from the eye, and collected, moreover, in large quantity under the lids, so that upon parting them it suddenly gushed out. Mr. Wilde states that he has "constantly remarked an extensive state of ulceration in the conjunctiva of the upper lid in the severe forms of this disease;" and adds, that he "now generally everts the lid to examine its inner surface as soon as the case presents itself." * Upon this point, however, we cannot speak from experience, as in the class of cases that have come under our observation, viz., infants of a few days old, eversion of the palpebra could not have been effected without much hurtful manipulation, from which there was no advantage to be gained, as the remedies employed were invariably successful in effecting a cure when a fair trial was given them.

This brings us at once to the subject of the treatment, with reference to which it is that the disease has been divided into two stages, whose distinctive characters depend on the nature and

* Report on the Progress of Ophthalmic Surgery. Dublin Quarterly Medical Journal, vol. iii., p. 239.

appearance of the morbid secretion,—a division, we may remark, by no means arbitrary or peculiar, as its foundation and practical utility are fully recognised in the inflammations of other mucous membranes besides that belonging to the visual apparatus.

In the first stage, when the discharge is transparent and the lids swollen, tense, and red, one leech was generally applied, unless the child was very weak or feeble. The spot selected for its application was just over the external canthus, as pressure can be here exerted, if needful, for the suppression of the bleeding, and extravasation is not so likely to follow as if the leech was put nearer the actual seat of inflammation. A warm bread-and-water poultice, enclosed between folds of fine linen, was subsequently placed over the eye, and renewed at intervals. We are decided advocates for leeching in the first stage of purulent ophthalmia, whenever the abstraction of blood is not obviously contra-indicated by the condition of the child. Along with the local treatment, the strictest attention was always paid to the state of the bowels, as they were very usually in a disordered state. This point is strongly insisted on by Mr. Hugh Carmichael: "I have, in the first instance, to observe," he writes, "that deranged bowels will, upon inquiry, be always found to be present to a greater or less extent. The fact is noticed by Mr. Saunders, and others, but not, as appears to me, with the importance it merits."* Where the alvine discharges were unhealthy, a powder containing one grain of calomel and two of hydrargyrum cum cretâ, and two of dried soda, was administered, and followed in the course of two or three hours by a dose of castor oil. Their healthy action was subsequently kept up by appropriate medicine, and by attention to diet. In some rare instances a repetition of the leeching was expedient, from the intensity of the inflammation, and the child being unusually strong and vigorous; but with infants of this tender age the application of a second leech is very seldom requisite or safe. The colour of the lip is, perhaps, as good a criterion as any other of the child's capability to sustain the further loss of blood.

As soon as the disease began to merge into the second stage, in other words, as soon as the discharge began to assume an

* Dublin Medical Journal, vol. xv.

opaque, milky appearance, a warm poultice of the curd of milk, coagulated with alum, was substituted for the bread and water, whilst the eye-lids were bathed occasionally with the whey or serous portion of the milk; as this contained a certain quantity of the alum in solution, it formed a very excellent astringent lotion. The discharge becoming thick and purulent was regarded as the indication for commencing the solution of nitrate of silver. This was made in the proportion of ten grains of the salt to one fluid ounce of distilled water. A few drops were put into the affected eye once daily, and immediately afterwards some warm alum curd, or a bread-and-water poultice, was laid on, by which the pain was assuaged, and the child prevented from rubbing or otherwise irritating the organ. When this soothing measure was omitted, a prolonged and violent fit of crying surely followed (apparently from the smarting occasioned by the drops), a state of physical excitement which, it is needless to say, must tend materially to augment the vascular turgescence of the inflamed parts.* If but one eye was affected, the nurse was enjoined to lay the child habitually on that side, lest the discharge trickling down might inoculate the sound eye during sleep. She was also expressly forbidden to use the same sponge with both eyes. Though cleanliness was a point much insisted on, so far as sponging the palpebræ, and gently pressing out the matter that lodged between and underneath them, yet no attempt was made to get rid of this by syringing or such like means, as its presence was not deemed hurtful or pernicious. "The purulent matter," says Dr. Jacob, "is nature's dressing, and the art of man has not invented a better or so good a one."

On some few occasions we have seen the ophthalmic inflammation to put on a very chronic, indolent character, and remain uninfluenced by the treatment for several days. Under these circumstances, the state of the stomach and bowels was minutely inquired into, and they were generally found to be very much out of order, the secretions being depraved, and the mouth

* From the observation of some cases in which the solution of nitrate of silver was used at the commencement of the disease, we should be most unwilling to recommend its employment in the *first stage* under any circumstances, not even in cases where the abstraction of blood was inadmissible.

affected with aphthæ or muguet. Besides regulating the diet and medicine in these cases, removing the child to another ward was a measure often resorted to with benefit.

Such is a brief description of the line of practice we have seen followed in this disease, and we can safely affirm that it was attended with most uniform success in all cases where the child was not prematurely taken away from under treatment. In a few of the latter instances, the little patient has been brought back with extensive ulceration or sloughing of the cornea, the consequence of gross neglect and mismanagement.

ON THE MANAGEMENT OF STILL-BORN CHILDREN.

THE management of suspended animation in new-born children is a subject so well understood, and the principles upon which it should be conducted are now so clearly recognised, as to render any lengthened observations thereon wholly unnecessary in a work like the present. The following short description, therefore, of the practice of the Hospital in this class of cases (not the least important or interesting to the accoucheur) is purely confined to practical details, especially such as relate to the use of the *stethoscope* and of *artificial respiration*.

When a child, immediately after its birth, exhibits none of the ordinary signs of vitality, such as respiratory efforts, or muscular contraction, the question will at once suggest itself, does life yet remain—is there still a possibility of restoring animation? We hesitate not to say that the most accurate information upon this point is to be derived from the stethoscopic examination of the heart, for we have seen very many children resuscitated with whom the *cardiac pulsations as detected by mediate auscultation*, had been the only proof of lingering vitality. What the effect of such evidence should be on the physician's conduct we need not at this moment stop to inquire; but it would undoubtedly prove a source of much encouragement under circumstances otherwise apparently hopeless, and at a time when he must be oppressed with the consciousness that the result of his endeavours is awaited with the most intense anxiety and solicitude. We have seen many infants restored to animation in whom respiration was for a long time suspended, yet we never saw a single instance where the slightest symptoms of vitality could be produced if the heart's pulsations had ceased to be audible when the child was born.* It

* Speaking of the effects of strangulation, between which and the mode of death in the foetus during labour there is an occasional analogy, Sir B. Brodie observes: "If the

may be asserted, without fear of contradiction, that had the stethoscope been used, no such accident could ever have happened as a doctor ordering an infant to be removed as dead which afterwards recovered without any assistance. Let it not be supposed, from the preceding observations, that we would recommend any innovation upon the rule that resuscitation should *always* be attempted in the absence of the signs of decomposition; to the excellence of this precept we give our full concurrence.

Children labouring under suspended animation at the time of birth are found to present very different external appearances, which, it may be supposed, are regulated by the extent and kind of lesion the vital functions have sustained. Now we think that, setting aside physiological considerations, and looking solely to practice, all these cases may be conveniently arranged in two classes, whose characteristic features are drawn from the general condition of the infant. In the one case the child is pale and perfectly flaccid; the eyes are closed; there is complete relaxation of all the muscles; great flexibility of the joints; and the finger can be pressed into the pharynx without any opposition being felt. In this form, which we are inclined to think is, perhaps, the more dangerous of the two, the state of the child closely approximates to syncope, as there seems to be a failure or deficiency of the vital principle.

In the examples of the second class, the outward appearance of the child is totally different, and would seem to be the result of great cerebral congestion, or apoplexy. The surface of the body is apparently swelled and of a red or livid colour, and both these characters are most remarkable in the face and neck; the eyelids are generally apart, and the eye-balls prominent, with more or less injection of their conjunctival membrane. There is seldom that extreme mobility of the limbs and flaccid state of the muscles that we see in the former class of cases. This state of the foetus was very apt to occur where the umbilical cord had tightly

action of the heart by which the circulation is maintained should cease, as a consequence of the suspension of respiration, it can never be restored. This I positively assert, after having made it the subject of very careful investigation."—*Lectures illustrative of Various Subjects in Pathology and Surgery*, page 81.

encircled the neck, or where the expulsion of the body did not take place for some time after the head.

Should the child not begin to breathe immediately after its birth, sprinkling the chest and face with cold water generally proved a most efficient means of stimulating the respiratory muscles, and exciting sensibility. This is a measure, however, which cannot be persisted in after the first or second trial, as it is of too depressing a nature; on this account, also, it is not well adapted to the cases included in our first class. It was, of course, an established rule not to sever the connexion between the foetus and placenta as long as the pulsations of the cord continued distinct. If the child presented an apoplectic appearance, some blood (ʒiii. or ʒiv.) was allowed to flow from the foetal end of the funis after its division. This simple mode of depletion frequently produced the most beneficial effects, relieving the oppressed state of the nervous system, and being speedily followed by signs of increased sensibility. If a sufficient quantity of blood could not be procured from the funis, the application of a leech to the temple was frequently attended with marked advantage. When the cord was long enough to admit of it, the warm bath was sometimes employed before cutting it. Smartly slapping the chest or buttocks is often resorted to with advantage in mild cases where the suspension of animation is only partial; but it will not, we think, be found to answer any good purpose if the infant be in a low state of vitality. Ammonia applied to the nostrils is an excellent restorative if there be any attempts at inspiration, so that it can be inhaled, but otherwise it is of no use. These efforts of the child to breathe will be very much assisted by compressing the epigastrium and sides of the chest with the hands, so as to empty the lungs of the inspired air as effectually as possible. In the first instance, and before adopting other measures, it is of importance to rid the mouth of any mucus that might hinder the entrance of air by obstructing the glottis. For this purpose, Gardien recommends a pledget of lint dipped in a solution of common salt to be used. A flexible tube, with a pump attached to it, has also been employed; but we give the preference to the finger over every contrivance.

In every instance where the process of respiration was slow of being established, or very imperfect after two or more trials in the above restorative measures, artificial respiration was commenced, and continued, *with intermissions*, until the necessity for its further employment was superseded by the natural performance of the function, or until the gradual failure and cessation of the heart's action shewed that all attempts at recalling the vital principle might be relinquished. We have said "with intermissions," because it was generally thought advisable to suspend the process for a moment or two at intervals, just to see if the failure of the supply of air to the lungs would stimulate the child to make an effort at inspiration. A gum-elastic male catheter, of the full size (No. 9 or 10) was the instrument used on all occasions for inflating the lungs. The child was placed in a horizontal posture, with the neck considerably extended, and the head bent rather backwards; the catheter was passed a short way into the mouth, and the lips and nostrils were then kept closely compressed, at the same time that the larynx was gently pressed against the spine, so as to favour the ingress of air into the trachea, and to prevent or obstruct its transmission down the œsophagus. Alternately with the insufflation of the lungs, a slight degree of pressure was made on the epigastrium and ribs, with a view to assist expiration. There was great difficulty with some children in directing the current of air down the trachea, and keeping it from distending the stomach. This was avoided by placing a hand on the præcordial region, and altering the position of the head and larynx. During the process of inflation, which was repeated at short intervals in imitation of natural respiration, whenever the child made any attempt to breathe, the compression was instantly removed from the mouth and nose, in order to give every facility to the entrance of air. It was considered a point of importance, in blowing through the catheter, to do so in the manner of using the blow-pipe, namely, that the efforts should be made by the mouth and soft palate, and not by the chest; and consequently, that the air should come from the mouth, and not from the lungs of the operator. This mode of inflating the lungs of still-born children is, we conceive, open to

fewer objections than any other. In the first place, the degree of force with which the air is propelled can be carefully regulated: secondly, its temperature is raised before entering the chest of the infant: thirdly, in quality it is little, if at all, removed from pure atmospheric air; and, lastly, no injury can possibly be inflicted on the soft parts within the mouth of the child. From our experience of this measure we must speak of its utility in terms of the strongest commendation, as we never could trace any evil effects from its employment, whilst in very many instances we have had every reason to believe that the child's life was preserved by its means.

The artificial respiration very constantly accelerated the action of the heart, where this was at all pulsating at the time of commencing the process; but we never observed that it restored in the least degree the cardiac movements after these had ceased to be perceptible. The recovery of the child did not, by any means, follow as a consequence of this improvement in the heart's functions; for, on many occasions, we have known the pulse to double its rapidity under the employment of this agent, but as soon as its use was suspended, the velocity of the circulation would quickly diminish, again to become raised on inflating the lungs; and thus we have seen matters go on alternating for two hours or upwards, and yet the great object of our exertions not be ultimately attained.

When, however, this increased frequency of the pulse is accompanied by other indications of vitality, such as restoration of the natural colour to the surface, the efforts at respiration recurring at shorter intervals and with more strength, signs of muscular irritability in the limbs and face, &c., we may calculate, with tolerable certainty, upon a successful issue to the case.

The artificial process was generally left off as soon as natural respiration was at all established, or at least sufficiently so to maintain the heart's function in that state of activity to which it had been raised by the temporary expedient of inflating the lungs. As resuscitation can seldom be considered complete and satisfactory until the infant breathes naturally, or cries aloud, it

was often necessary to proceed with the employment of restorative and invigorating remedies for some time after the discontinuance of artificial respiration.* As soon as the child could swallow, small quantities of white-wine whey were given from time to time; or if it seemed very languid and feeble, a small enema containing a few drops of the fetid or aromatic spirit of ammonia was administered. But by far the most important point in the management of these weakly, delicate infants, or of such as are in a similar condition from having been born prematurely, is to support the temperature of their bodies by artificial means.† For this purpose nothing answers so well as cotton wadding, being softer and warmer than flannel or any of the materials ordinarily used in the clothing of children.

* We cannot forbear from alluding here to a very able and instructive article from the pen of our friend, Dr. Doherty, on "Impending Dissolution and Nervous Affections of Infants," contained in the twenty-fifth volume of the Dublin Medical Journal.

† It is a common observation that children born at the seventh month of utero-gestation, more usually survive than those expelled at the eighth month. This, if true, may be explained, we think, by the fact, that the former are generally better cared, and more closely watched, than the others.

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